Communities in Action

Cities Urged to Create Cultural Planning Commissions

Appointment by local governments of commissions to do, in the fields of cultural planning and public affairs education, what city planning commissions now do in the fields of zoning and physical planning, was advocated on July 29 by Chancellor William P. Tolley of Syracuse University. Speaking at the Colgate University Conference of the New York State Citizens' Council for a Durable Peace, Chancellor Tolley said, in part:

AMERICANS may have a flair for exaggeration but they have no gift for understatement. While we have talked much about post-war planning, we have done surprisingly little. Because we have substituted words for action the public may have a rude awakening when peace finally comes and the planned-for age arrives. . . .

It is a heartening experience, however, to see the war-time interest in planning at the grass roots level. It is significant that at the very time of greatest regimentation and federal control, thousands of cross-road communities have found a modern equivalent of Town Hall meetings and have started to do some planning for themselves in accordance with the American tradition of local responsibility and individual action.

It would have been better, I think, if we had not over-advertised this informal planning movement. It would have been still better if we had not attempted to label it post-war planning, but had recognized that this is a part of a continuous planning program of progressive communities. There is little that is new in planning. It is as American as corn bread and baseball; it is an integral part of the American dream of A New Order of the Ages. It is no accident that we find this motto, *Novus Ordo Seclorum*, on the great seal on every dollar bill. The founding fathers were incurable idealists with a boundless faith in the future. . . .

County-Wide Planning

It is likewise reassuring to observe that so many of the planning agencies are on a county-wide basis. The day has passed when cities can solve their problems independently of the suburban communities that surround them. Piecemeal planning is of limited value. What is needed now is concerted planning by counties and regions. . . .

Now that the preliminary plans of the Syracuse-Onondaga Post-War Planning Council have been made and we are ready for a successor organization to translate our dreams into reality, there are a number of conclusions that may be drawn:

The first conclusion is that we must enlist the aid of the Legislature to give counties and cities more power to deal with local problems. Zoning must be on a county-wide basis. Municipalities must be given new legal powers. . . .

The second conclusion is that physical planning must be counterbalanced by continuous educational and cultural planning. The whole concept of cooperation in the cultural field seems novel and unique, in spite of the fact that we take both coordination and cooperation for granted in such fields as health, sanitation, zoning and welfare. . . .

The Public School as the Community Center

In talking about cultural and educational planning at the level of the village and the town, I think we must recognize that the public school is the new community center and the agency of greatest promise and influence. We have learned much during the war period about new fields of service. It may have been a heavy burden for teachers to help with selective service, sugar rationing and then general food rationing, as well as blood banks, Red Cross centers, Americanization classes, and all the rest; but it has been the best possible experience for the public schools. For the first time schools have been used from 8 in the morning until 11 at night. For the first time they have become truly a community center. We should profit from this experience and plan in the post-war period to make our school buildings available to community agencies for all kinds of community service.

I am thinking now of the organization of community orchestras, of a community chorus, of a photography group, and a fine arts society for men and women interested in modelling, painting and ceramics or handcrafts. I am thinking of discussion groups, institutes for parents, town-hall meetings, book reviews, informal courses taught by members of the high school faculty and occasional extension courses from the university. I am thinking of the use that can be made by the public school FM station and later the public school television station. I am thinking of the informal counsel of cultural agencies composed of the ministers of the village, the members of the school board and three or four of the most public-spirited citizens. No other agency in a small town —unless it is a one-industry town—has the opportunity of the public school for leadership in cultural and educational planning.

When we move to the city, the case is not quite so clear. Where possible we should continue to use the leadership of the public schools, but in the city we must also remember that there are strong and well-organized parochial schools, there may be an historical society, an historical museum, city libraries, art museums, concert series, industrial and labor organizations, and perhaps a college or university. Thus in the city we must begin with the existing agencies and there should be continuous planning rather than pre-depression or post-war planning.

From our experience, however, in the Syracuse-Onondaga Post-War Planning Council, I am convinced that the leadership must be professional. We cannot hope to do in the cultural field what is now being done in the field of public health without a corresponding professional leadership —a leadership that will still have to be developed.

For More Effective Cultural Planning

I would propose, specifically, a Council of Cultural Agencies that would serve as a counterpart of the Council of Social Agencies and which would have in its membership not only the official representatives of the many civic educational institutions and cultural agencies but also representatives from the public at large.

I would propose a Cultural Planning Commission appointed by the Mayor and the Common Council to do in the field of cultural and educational planning and public affairs education what the City Planning Commission now does in the matter of zoning and physical planning.

I would propose a county organization appointed by the Board of Supervisors that would have an official relationship to the city Cultural Planning Commission, so that the attack on educational planning would be unified and coordinated on a county-wide basis.

I would propose that the city make a place in its budget for cultural and

(Concluded on page 109)

EMERGENCY STEERING STATION on U. S. battleship. The helmsman gets steering instructions over a battle telephone. The two other men are intently watching their gauges.

The Big "Battle Wagons" Are Run by Telephone

There are more than 2000 telephones on just one battleship. And many, many thousands on all the ships in the Navy.

The needs of war have first call on the country's manufacturing capacity and manpower. That is why there is not enough telephone equipment to take care of all civilian requirements and why many people now have to wait for telephone service.

It will be some time before all who want service can get it. We'd like those who must wait to know that we shall continue to do everything possible to shorten that time.

"GIVE 7 TO 10 TO THE SERVICE MEN"

and help their night-time Long Distance calls from the camps get through quicker to the folks at home.

BELL TELEPHONE SYSTEM

Our Municipal Notebook

Get Ready to Be Careful Next Winter

THIS coming winter the prevention of accidents and the preservation of both maintenance personnel and equipment used in snow removal work assumes even increased importance. Maintenance crews now are less than skeletons of their former selves and maintenance equipment, most of which has weathered three war winters and much of which will be adding another season to a string of pre-Pearl Harbor winters, is scarcely in the best of condition. The truck that once appeared to stand the shock of drift bucking, this winter may have a shaft or axle that will snap.

Despite the personnel and equipment, winter-maintenance accidents can be avoided by the engineer who foresees his problems and gets ready to meet them now. For instance, a certain snow plow did a thorough job of wrecking a good truck in a Northwestern state a few years ago. This truck was traveling rather fast with the cable-controlled plow elevated when, for no apparent reason, a cable snapped and the front end of the truck entered into a disastrous tangle with the plow.

The accident might have been avoided had an engineer, familiar with steel cables, taken the precaution to examine the cable carefully for signs of wear or strain. It is reported that many engineers are now equipping their cable-controlled snow-removal equipment with pre-formed wire rope because on this type of equipment, accidents to sheaves, pulleys and drums are frequently small in relation to rope diameters. Pre-formed wire rope, because it is comparatively free from internal stresses, has a higher resistance to metallic fatigue caused by bending. Moreover, metallic fatigue progresses at a slower rate. Pre-formed wire rope has great flexibility and it also resists kinking, which operators consider a distinct advantage when replacements are necessary.

Engineers this winter may avoid many accidents and equipment breakdowns by making thorough, searching inspections of winter-maintenance machines now and by making repairs and replacements wherever there are indications of weaknesses or wear. Inspections now may result in delivery of parts or replacements for repair work which later may be unobtainable.

Times Are What We Make Them

THE box at the right is from a 12-page report by A. B. Dick Co., Chicago, "to our people and friends on the occasion of our sixtieth Anniversary."

Entitled "The Second Sixty," the report looks ahead. The first 60 years established the A. B. Dick word "Mimeograph" as almost synonymous with duplicating. At present, says the report, "Mimeograph duplicators are at the front line, on the fighting high seas, in the supply lines, at the training center, and where materials are being produced." No greater service can be rendered the operators of these wartime duplicators than to see that such machines are used in greater volume than ever in the city halls, police, and finance departments, as well as in stores and factories.

It takes no mental daredevil to predict that we will have a lot of better things after this war.

In the glimpses, surmises, previews and forecasts of the Postwar Era, however, we are getting far too liberal doses of Jules Verne, Superman, H. G. Wells and a Penrod daydream.

We must bring ourselves to realize chickens will still lay eggs the same old way

—it will still get colder in winter, hotter in summer.

—an electric refrigerator will not wash the dishes in between ice cubes.

—pigs will continue to furnish only two hams per pig.

While post-war civilian demand for many goods may be heavy and spontaneous for a while, the necessary volume of peacetime production will be reached and held only by unremitting American selling. As the box points out, "it will still get colder in winter, hotter in summer." While air conditioning, for instance, can reverse that process, it will never do it without everlasting business promotion. Few paths are worn to manufacturers' doors; the traffic is from those doors to the prospective customers.

Drive Safely

I rarely mix politics with poetry,
But here's my stand, and you can quote me;
If we watch how we drive
We'll still be alive
Next November, so . . . Dewey or don't we?

TRAFFIC EDUCATION UNIT
Los Angeles, Calif.

Inspections now of your snow removal equipment with particular attention to rope and cables mean safety and performance when winter comes. At the left is a Le Tourneau Angledozer on a Caterpillar RD 7. At the right is a Sargent plow on an International truck.

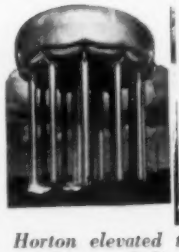
Awarded to our: Dry dock yard at Eureka, Calif.—Feb. 27, 1943. Shipyard at Seneca, Ill.—June 12, 1943. Dry dock yard at Newburgh, N. Y.—July 15, 1943. Birmingham, Ala. plant—May 2, 1944. Dry dock yard at Morgan City, La.—May 4, 1944. Chicago, Ill. plant—July 11, 1944. Greenville, Pa. plant—July 12, 1944.

Beach-head BOUND!

Gull's-eye view of the LST 214.

For more than two years our plants have been fabricating steel for the hulls of LSTs. Everything from small prefabricated units to steel box sections which become integrated compartments for quartering men on the vessel, are shipped from our fabricating plants by rail to our shipyard, hoisted into place by crawler cranes and welded into LSTs.

For outstanding production of LSTs all of our fabricating plants and our shipyard have been awarded the Army-Navy "E." Despite this direct contribution to the war effort we have facilities to design and fabricate Horton elevated water tanks and steel storage tanks for municipalities. We invite inquiries from water works engineers and municipal officials.



1,500,000-gal. Horton radial-cone bottom tank located a San Antonio, Texas.

Horton elevated tanks such as this symbolize the far-sighted planning on the part of municipal officials who recommended their installation.

CHICAGO BRIDGE & IRON COMPANY

Birmingham 1.....1502 North Fiftieth Street
Houston 1.....5601 Clinton Drive
Tulsa 3.....1625 Hunt Building
New York 6....3308—165 Broadway Building
Cleveland 15.....2236 Guildhall Building

Chicago 4.....2127 McCormick Building
San Francisco 5.....1033 Rialto Building
Philadelphia 3.1616-1700 Walnut St. Building
Havana.....402 Edificio Abreu
Washington 5.....330 Bowen Building

Plants in BIRMINGHAM, CHICAGO and GREENVILLE, PENNSYLVANIA

Water Works

Charleston Plans Water Works Improvements

THE water-works at Charleston, S. C. will have been strengthened by August 1 of this year to meet its increased wartime demands, according to J. E. Gibson, Manager and Engineer.

Charleston's difficulty has been in its boiler capacity. The department has had to run the boilers continuously at full load without being able to shut them down for repairs. "Fortunately the plant was in good condition when these additional loads came. However, without regard to how good the plant is, or how well maintained, or how fortunately free from accidents it may be, there comes a time when you must shut a boiler down for repairs. We have not been able to do this for two years, and feel fortunate that we have now obtained a priority permitting us to install an additional boiler, the building to house it, and a stack.

"The city has been further handicapped because the low-service pumping plant has been operating at full capacity. It consists of one 10-mgd steam pump, two 5-mgd electric pumps, and one old steam pump 40 years of age. The raw-water pumpage has been at the rate of 12-mgd, and the filtered water or high filtered pumpage, an equal amount. Accordingly, if from any cause the 10-mgd pump should break down the plant could not pump sufficient water with the two electric and the old steam pump to supply the demand. Here again the department has been successful in obtaining a priority for an additional 10-mgd diesel engine and centrifugal pump."

Meters to Reduce Water Consumption

BRISTOL, Va., is in the process of putting its water-works system on a 100 percent metered basis, thereby reducing the water consumption and load on the plant, according to P. A. Goodwyn, Acting City Manager.

The city has two sources of supply. One is a reservoir with a 5,000,000-gallon capacity supplied by a group of springs with a normal flow of from 300,000 to 500,000 gallons per day, another single spring with a capacity of 750,000 gallons per day. The second course is a filtration plant supplied by a creek, which has a capacity of 1,500,000 gallons per day.

Mr. Goodwyn expects all meters to be installed by October and states, "At present the demand for water practically equals the city's capacity and it is hoped the installation of meters will reduce the demand considerably."

Latin American Cities Improve Water Systems

FOURTEEN communities in various Latin-American Republics are bringing their water supply system up-to-date under the inter-American health and sanitation program. This is according to a recent release of the Office of Coordinator of Inter-American Affairs.

These activities are a part of the continental campaign against typhoid fever and other diseases spread by water-borne parasites, and the work is one phase of the inter-American health and sanitation program in which eighteen of the other American Republics are making a united effort to raise health standards with the cooperation of the United States.

Underground Supplies Importance and Extent

IN a paper given at the Southern Section of AWWA meeting, held May 8-10 at Greenville, S. C., W. S. Beiser of the Layne Atlantic Company gave the following list to show the extent of development of ground water and its place in the growth of the United States.

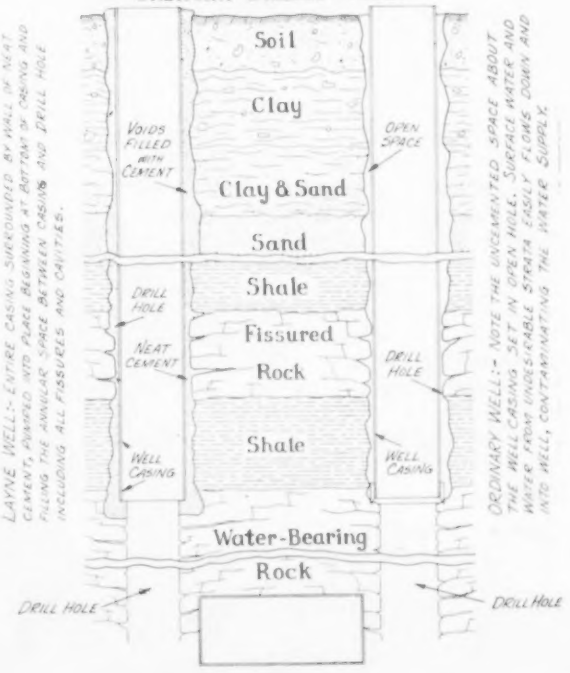
Ground water:

1. Supplies nearly half the population of the United States.
2. Nearly all the rural population of the United States (in 1940, 57,000,000) obtain water from this source.
3. It supplies the larger percent of cities between 2,500 and 10,000.
4. According to estimates 6,500 out of 10,000 public water supplies are derived from this source.
5. Larger cities such as Houston, Texas; Memphis, Tenn.; Savannah, Ga.; Miami, Jacksonville, and St. Petersburg, Fla., are all supplied by ground water.

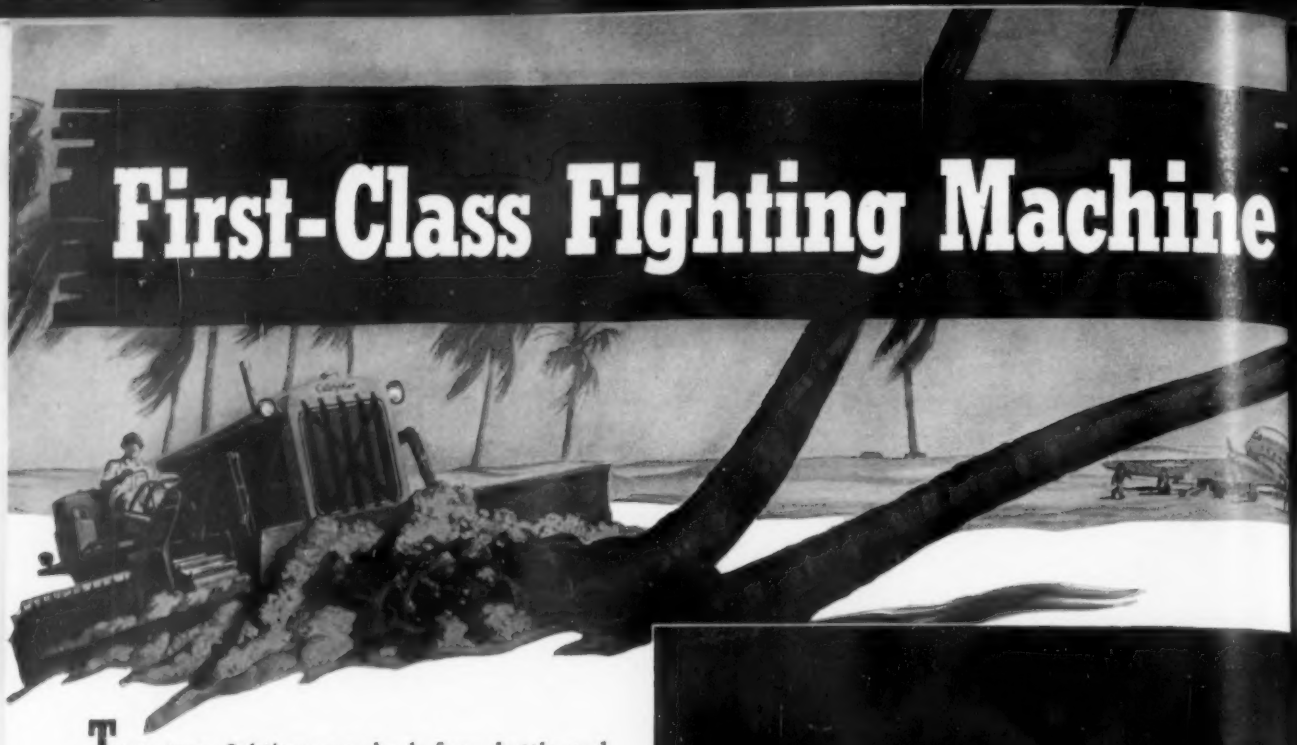
Limestone Well

A limestone well is drilled with rotary equipment where water-bearing formation is consolidated, as in the coastal area between Savannah and Jacksonville. The pit casing has a jacket of approximately 3 inches of grout cement slurry which seals the casing to the wall of the drill hole. Below the casing is open rock formation. Note the seal at the bottom of the casing which will assure contamination - free water even with a low pumping level

CROSS SECTION SHOWING ADVANTAGES AND SUPERIORITY OF A LAYNE WELL FINISHED IN ROCK STRATA, CASING CEMENTED, OVER AN ORDINARY DRILLED WELL.


LAYNE WELL:- ENTIRE CASING SHROUDED BY WALL OF NEAT CEMENT, PUMPED INTO PLACE BEGINNING AT BOTTOM OF CASING AND FILLING THE ANNULAR SPACE BETWEEN CASING AND DRILL HOLE INCLUDING ALL FISSURES AND CAVITIES.
Soil
Clay
VOIDS FILLED WITH CEMENT
OPEN SPACE
Clay & Sand
Sand
Shale
DRILL HOLE
Fissured Rock
NEAT CEMENT
DRILL HOLE
Shale
WELL CASING
WELL CASING
Water-Bearing Rock
DRILL HOLE
DRILL HOLE
ORDINARY WELL:- NOTE THE UNCEMENTED SPACE ABOUT THE WELL CASING SET IN OPEN HOLE. SURFACE WATER AND WATER FROM UNDESIRABLE STRATA EASILY FLOWS DOWN AND INTO WELL, CONTAMINATING THE WATER SUPPLY.

First-Class Fighting Machine



TALK to a fighting man back from battle and you'll hear him speak of "Caterpillar" Diesel equipment with affection. He knows that, out there, when they need "workpower" they count on "Caterpillar" Diesels. War dramatizes the dependability of these husky power-plants. For a single power failure may cost lives.

It was in the years before the war on the highways, on construction jobs, in logging camps and oil fields and on farms that "Caterpillar" Diesels matched their dependability against the toughest kinds of jobs that could be found.

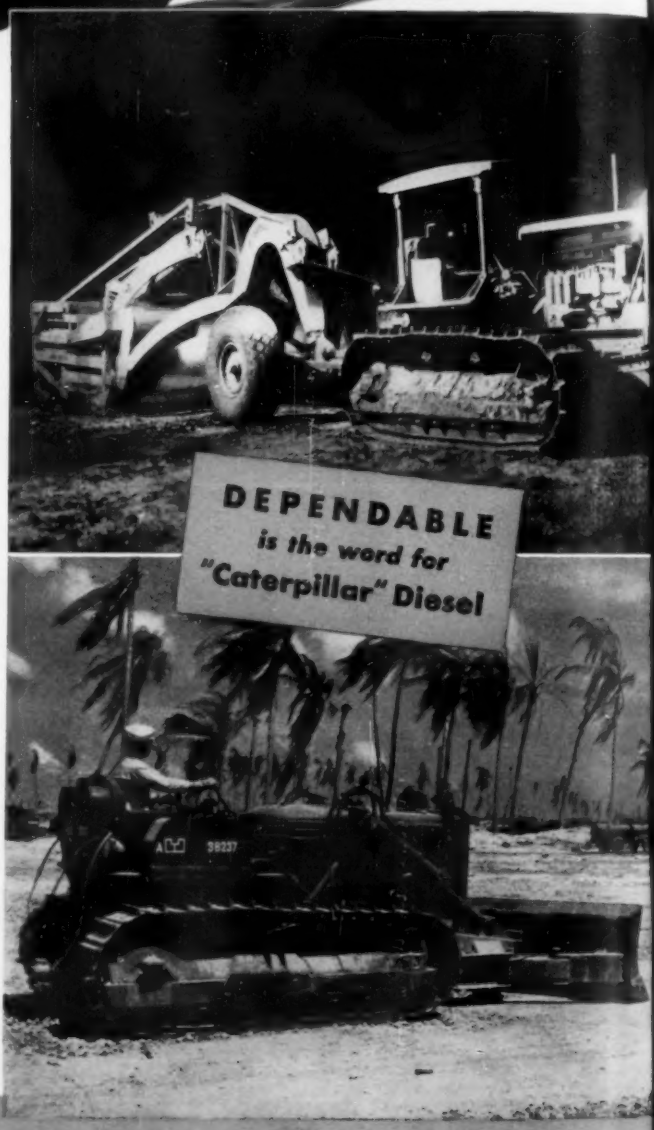
Through those years, the men who built them were watching them perform. Owners of "Caterpillar" equipment were urged to give it more and harder work to do. After many thousands of hours of service, engines were torn down and studied. At the first sign of an on-the-job weakness—no matter how slight—"Caterpillar" trouble-shooters went after it . . . *and corrected it!*

So, when the armed forces asked for dependable power, it was just a question of stepping up production of the same machines which had been proved over so many years.

When the war is done, the biggest production of "Caterpillar" Diesel Tractors, Motor Graders, Engines and Electric Sets in all history will be ready to tackle the countless tasks that peace will bring. They won't be streamlined "dream" models, but they will be modern, battle-tested "Caterpillar" Diesels—the same kind that are with our troops around the world today.

Meanwhile, your "Caterpillar" dealer is equipped to render complete and efficient service to help keep your present "Caterpillar" equipment on the job—working at peak efficiency.

CATERPILLAR TRACTOR CO. • PEORIA, ILLINOIS



CATERPILLAR DIESEL

REG. U.S. PAT. OFF.

TO WIN THE WAR: WORK—FIGHT—BUY WAR BONDS!

Public Health

Many Cities Adopted Restaurant, Milk Sanitation Ordinances in 1943

MORE than 36 cities adopted either the restaurant sanitation code or the standard milk ordinance, recommended by the U. S. Public Health Service, during the last year.

Cities over 25,000 population recently adopting the restaurant code include Indianapolis and Elkhart, Ind., Portland, Me., and Spartanburg, S. C. Cities between 10,000 and 25,000 adopting it were Attleboro, Mass., Ferndale, Mich., Minot, N. D., and Cambridge, O. Cities of less than 10,000 enforcing the code are Ludington, Mich., Warrensburg and Waynesville, Mo., Athens, O., Baker, Ore., Clinton, Tenn., and Bay City, Tex.

Denver, Richmond, Va., Columbus, Ga., Coffeyville, Kan., Gainesville, Fla., La Grange, Ill., Elkhart, Ind., and Sioux Falls, S. D., adopted the milk ordinance, according to information sent to the International City Managers' Association. Some of the cities of less than 10,000 adopting the ordinance are Grinnell, Ia., Bonner Springs, Kan., McCook, Neb., and Watertown, Minn.

Eighty-one cities of more than 10,000 population and 169 cities of less than 10,000 now have adopted the retaurant sanitation ordinance. It also is in effect in 137 counties and has been adopted as state board of health regulations in 18 states. In 14 of these—Arkansas, Connecticut, Delaware, Florida, Indiana, Kentucky, Mississippi, Missouri, Nevada, North Carolina, Oklahoma, South Carolina, Virginia and West Virginia—it may be enforced without local adoption. There are 144 cities in these states which have not adopted the restaurant code, but in which it may be enforced.

The model milk ordinance has been adopted in 124 cities, or 30 percent of all cities of more than 25,000, and by 190 cities, or 31 percent of all cities in the 10-25,000 population group. Also it has been adopted by 596 municipalities of less than 10,000 and is in effect in 75 additional cities through adoption by the counties in which they are located. In addition, the milk ordinance has been adopted as state board of health regulations in 13 states and Alaska; in Florida, Mississippi, Nevada, and West Virginia it may be enforced without local adoption.

Shoreline Development Study for Los Angeles

ACCORDING to the "Shoreline Development Study" compiled and published under the sponsorship of the Greater Los Angeles Citizens Committee, Inc., whose purpose is to awaken the general public to the condition of the beaches in the Los Angeles area, the lack of sewage treatment has caused serious pollution of these beaches.

The report states further:

"For the past fifty years, except for partial screening, the untreated sewage of much of the metropolitan Los Angeles area has been discharged into the ocean at Hyperion beach. Through a broken and crumbling submarine outfall the raw sewage spurts, only to be carried back to the shore by the action of wind, wave and current.

"Few people realize that ten miles of ocean between Venice and Hermosa has become a common cesspool. Nor do they realize that if they bathe in these cool waters, they are surrounded by the daily discharge of 140,000,000 gallons of untreated sewage and industrial wastes. Sands intended for quiet sun bathing are smeared with the scum of human filth borne in on the crest of every wave. Wide grease bands bearing germ bacteria await only to be carried home on the skin and clothes.

"Contamination of Santa Monica Bay has been allowed to increase year by year despite the continued complaints of all the beach communities. Pollution has finally become so obnoxious that the California State Department of Public Health placed a quarantine order on ten miles of the shoreline, prohibiting the use of the water for bathing. This offers no solution to the basic problem, however, as the flood of pollution still continues.

"Governmental agencies are not alone responsible for this deplorable situation, for an indifferent public has five times defeated bond issues to remedy these conditions."

Widespread beach studies and stream surveys are awakening interest throughout the United States in eliminating pollution.

An illustration from the Greater Los Angeles Citizens Committee's publication of its "Shoreline Development Study."

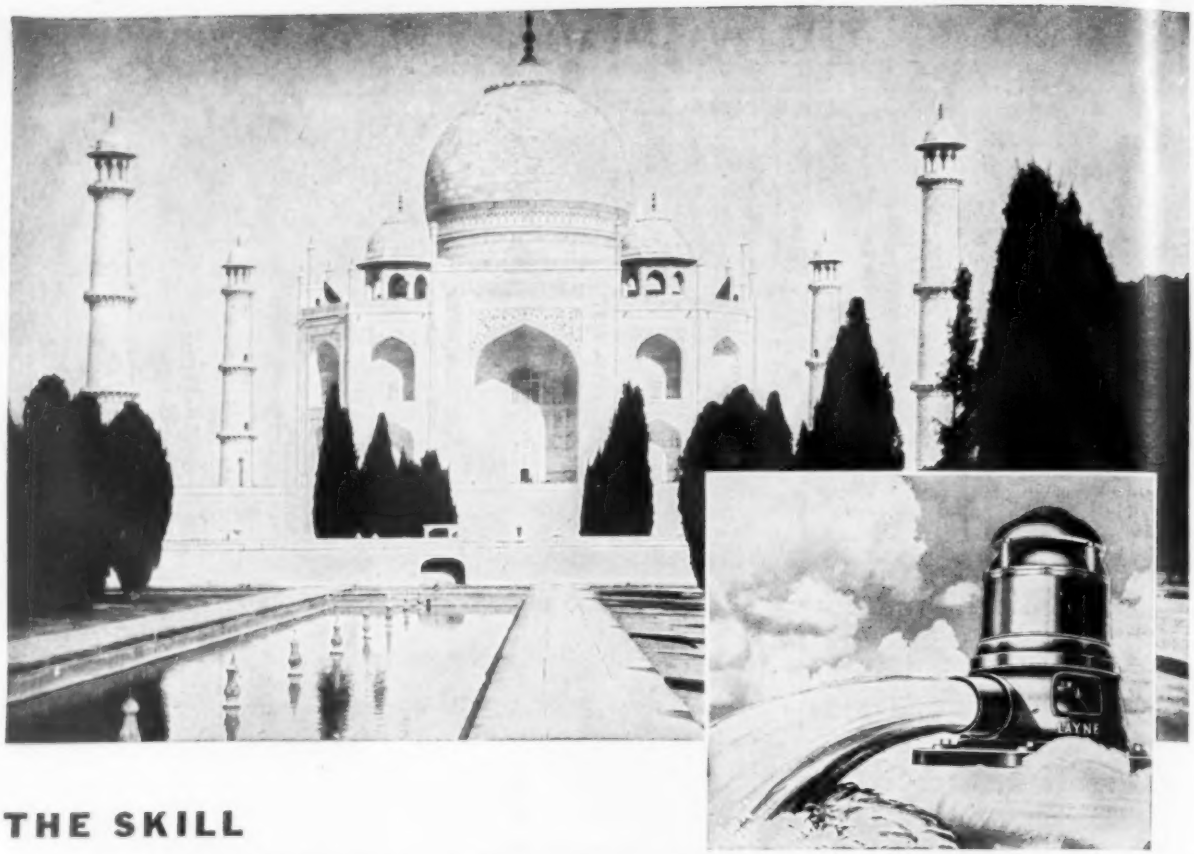
EDITORIAL NOTE: See page 13 for further discussion of this same subject in an article entitled "Solution to Los Angeles Sewage Problem."

V. D. Center Opens at Ann Arbor, Mich.

THE Michigan Department of Health announces the opening of the Michigan Rapid Treatment Center at Ann Arbor during the latter part of June, 1944. This hospital is one of 85 approved and financed by the Federal Works Administration. Dr. Nelson Ryan will be in charge of this Center.

When all centers are in operation, it is hoped that the prevalence of venereal disease will be materially reduced.

The physicians who will direct these rapid treatment centers throughout the country will receive their training at Ann Arbor under the direction of Dr. Udo J. Wile, Professor of Dermatology and Syphilology of the University of Michigan School of Medicine.



THE SKILL

OF THE BUILDER

Needs No Praise

No one had to proclaim the merits of the man who built the incredibly beautiful Taj Mahal of India. The building itself is a monument to his incomparable skill.

62 YEARS of Water Producing Experience

Nor need any one in the Layne Organization preach the superior merits of Layne Water Systems or of Layne High Efficiency Pumps. They need only to point to any of many thousands now in operation and say—"go and see for yourself." This long used policy places all responsibility directly upon the product itself.

Each Layne Water System is a "tailored to fit" job. The size of motor, casing, shafting, bearings, pump bowls and screen mesh are determined by the actual physical and operating conditions of each installation.

The finished product is delivered—"in operation"—producing the stipulated quantity of water. Layne Companies are located throughout the territory served. This insures prompt and efficient attention when adjustments, servicing or repairs are required.

For literature, catalogs, etc., address Layne & Bowler, Inc., General Offices, Memphis 8, Tenn.

LISTED BELOW ARE LAYNE AFFILIATED COMPANIES, ALL OF WHOM ARE FULLY EQUIPPED TO PROVIDE COMPLETE WELL WATER DEVELOPING SERVICE

Layne-Arkansas Co., Stuttgart, Ark. * Layne-Atlantic Co., Norfolk, Va., Savannah, Ga., Orlando, Fla. * Layne-Central Co., Memphis, Tenn. * Layne-Northern Co., Mishawaka, Ind. * Layne-Louisiana Co., Lake Charles, La. * Louisiana Well Co., Monroe, La. * Layne-New York Co., New York City and Pittsburgh, Pa. * Layne-Northwest Co., Milwaukee, Wis. * Layne-Ohio Co., Columbus, Ohio * Layne-Texas Co., Houston and Dallas, Texas * Layne-Western Co., Kansas City, Mo., Chicago, Ill., and Omaha, Neb. * Layne-Western Co., of Minnesota, Minneapolis, Minn. * International Water Supply, Ltd., London, Ontario, Canada.

LAYNE

WELL WATER SYSTEMS

DEEP WELL PUMPS

Sewerage and Sewage Treatment

Post-War Sewage Plant for Niles, Mich.

THE post-war sewage plant for Niles, Mich., designed for a population of 15,000, will have an average flow of 2 mgd and a maximum flow of 4 mgd. When completed, sewage will flow to the plant by gravity and will be pumped by one gas- and two motor-driven pumps.

Sewage entering the plant will pass through a bar screen, a comminutor, the grit chambers, and thence to the primary settling tanks for a detention period of from 1½ to 3 hours.

The plans provide for two fixed cover heated sludge digestion tanks with a total capacity of 60,000 cubic feet. The tanks will be arranged for either parallel or series operation for digestion in stages. Gas collected will be used to operate the gas pump and for heating. Provision has been made for storing any excess gas.

The sludge will be dried on open sand beds.

Provision will also be made for chlorination, either before or after primary settling, with a 30-minute detention in the 41,000-gallon reaction tank.

Shoecraft, Drury, and McNamee of Ann Arbor, Mich., are the designing engineers, and Vernon N. Taggett, the City Engineer.

"Know How" for Pollution Control

THE "know how" to control and correct practically all types of pollution is available, according to Paul S. Mathes, Commissioner of the Tennessee Department of Conservation, in a recent issue of *The Tennessee Planner*, and we could bring the effective power of our "know how" to bear if rivers could be made to flow in a circle and bring their pollution load back to the polluter.

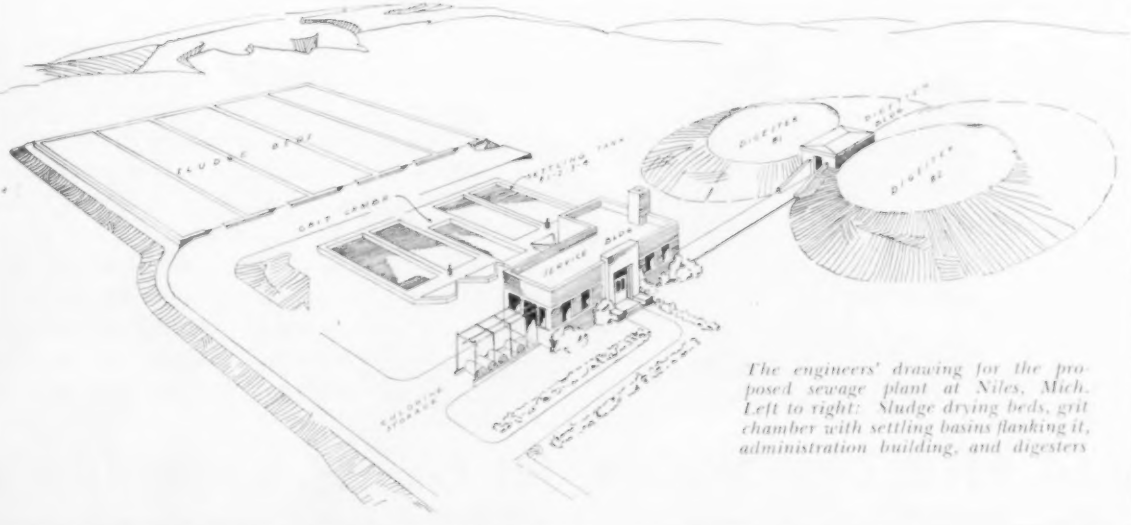
One unhappy part of the present stream pollution situation is that an enormous amount of wastes now going into streams could be profitably treated. Only recently according to Mr. Mathes a chemical plant in the Knoxville area was forced to study its problems of waste disposal because of local objection to the undue pollution nuisance being created. The problem was studied by TVA engineers and on their recommendation, the company took certain corrective measures which resulted in the recovery of several hundred dollars worth of valuable chemicals per month. Mr. Mathes recommends that other industries might profitably do likewise. Paper mills, he points out, could recover wool fiber now wasted, which if recovered could be used for the production of numerous chemical products, including wood oils, alcohols, acetic acid, and phenol. As research perfects processes for the profitable recovery of by-products, industry can be relied upon to diminish its contribution to stream pollution, he maintains.

Solution to Los Angeles Sewage Problem

THE firm of Metcalf and Eddy, consulting engineers, has recommended the construction of a $21,000,000 high rate activated sludge sewage treatment plant to solve the sewage problem which has for some time been a serious one for Los Angeles and environs. California health authorities have ordered all beaches for a distance of 10 miles surrounding this area under quarantine because of excessive sewage pollution.

According to the proposed plan the plant will be located north of the present Hyperion site and effluent from the plant will be conveyed one mile out from the beach through an outfall sewer. The plant would be designed for a population of 3,000,000. The proposal recommended a second treatment plant located in the industrial district along the Los Angeles river.

Sewage Treatment Plant for Niles, Mich.



The engineers' drawing for the proposed sewage plant at Niles, Mich. Left to right: Sludge drying beds, grit chamber with settling basins flanking it, administration building, and digesters

OK'd

BY CITY OFFICIALS AND MERCHANTS EVERYWHERE

Wherever installed, MI-CO Parking Meters have won the unqualified endorsement of city officials and merchants. City treasuries have been enriched; merchants say their business increased; and motorists like them because they assure a place to park. Entire communities have benefitted. ¶ MI-CO Meters offer you many advantages. Perhaps the most outstanding is low cost maintenance, and this feature alone is responsible for a number of installations. Low cost upkeep is the result of correct engineering, sturdy construction, and fewer moving parts. Get all the facts. Write for folder which gives complete information. Of course these meters will not be available until restrictions on materials are lifted, but the time to plan is now, and it will be to your advantage to give most careful consideration to MI-CO Parking Meters for your community.

MI-CO METER CORPORATION, 231 Court St., COVINGTON, KY.

Manufactured under the patents of F. L. Michaels by The Michaels Art Bronze Co., Inc.

Refuse Collection and Street Cleaning

Utica, N. Y., Adopts New Ash Collection Rules

UTICA, N. Y., has revised its specifications for ash collection in a new contract which became effective April 1, according to a recent issue of the New York State Municipal Bulletin.

The new specifications expire December 31, 1944. They provide a wage scale of 80 cents an hour for laborers and 90 for drivers, as opposed to the former rate of 60 and 65 cents, respectively.

Weekly collections must be made in residential sections and twice-weekly collections in business sections. The commissioner of public works is authorized to change this schedule if the need arises, but it may not be changed oftener than once in three months.

The bidders were required to post a $10,000 guarantee with each bid and the successful bidder a $25,000 surety bond.

A fine of $5 per day is provided if a dumping ground is used for which no permit has been issued, and $5 per day for use of trucks without proper identifying numerals. The contractors must provide their own dumping grounds, except that the commissioner may, if he deems it advisable, permit them to dump on city owned property.

Garbage Collection In Iowa

GARBAGE collection in Iowa cities of over 20,000 population is more or less similar in method; however, the plans for disposing of garbage vary widely. All require that a water-tight container be furnished by the householder and that it be of a specified type and size.

Here are the results of a survey made by Mayor W. B. Hull, of Marshalltown, Iowa, as listed in a recent issue of American Municipalies:

Des Moines (159,819): City operated under its department of streets and paid by special levy with no charge to the householder. Most of the garbage is sold to hog feeders. No rubbish is collected.

Sioux City (82,364): Seven separate contracts let and financed by taxation. Collect garbage, rubbish and ashes from householders. Hotels, restaurants, boarding houses, and meat markets must remove their own.

Davenport (66,039): The city under the direction of the Department of Public Works collects household garbage. The collections financed by taxation are made with 1½- and 2-ton trucks and 2 load-packers. (Because of the economy of the packer type truck it hopes to replace other trucks with this type when priorities permit.) Restaurant garbage is collected by private concerns. Land fill disposal.

Cedar Rapids (62,120): City collections are made under the Department of Health in 3 closed and 10 open trucks. An incinerator at the sewage disposal plant burns the garbage using sewerage gas.

Dubuque (43,892): Contract let under Department of Health and financed by special tax levy.

Ottumwa (31,570): Under the supervision of the city Sanitary Department 3 private collectors make collections from residential areas at fifty cents per month, and 3 collect from restaurants making no charge and selling the garbage to hog feeders.

Clinton (26,270): City collects and finances by taxation. Incinerator burns garbage.

Burlington (25,832): City contracts with one collector. Finance by taxation. Garbage sold to hog dealers.

Street Sweeper Sales Up

THE War Production Board reports that shipments of street sweepers during the first quarter of 1944 exceeded by 25 percent the total shipment for 1937. This was a continuation of the high 1943 rate when shipments were over double the 1937-1941 annual average. The decrease in military demands dropped to the lowest level since the fourth quarter of 1942.

These data are based on 10 companies which represent 100 percent of the industry.

NUMBER OF SWEEPERS

Period	Shipments	Unfilled Orders (End of Quarter)
1937	388	
1938	518	
1939	501	
1940	644	
1941	950	
1943	1944	
1942—4th Qtr.	156	786
1943—1st Qtr.	351	1,034
2nd Qtr.	541	1,122
3rd Qtr.	460	887
4th Qtr.	592	526
1944—1st Qtr.	488	358

New Street Cleaning Equipment for Wilmington, N. C.

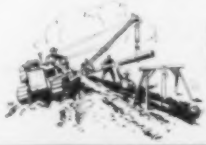
Nothing was more critical in Wilmington, N. C. than its manpower situation as far as the Street Department was concerned. Consequently in order to keep important streets and arterial highways clean and in tiptop shape this city recently purchased two Elgin sweepers. The photograph shows one of them in front of the three-year old city garage.

idle Machines will help produce

MORE FOOD

MORE LUMBER

MORE ORE


MORE OIL

The need is URGENT . . . the time is NOW! Even with the construction equipment industry producing at 4 TIMES its pre-war rate . . . the demand for construction machinery far exceeds the supply. List your idle equipment for sale or rental at your nearest WPB office . . . or let your Allis-Chalmers dealer help you place it in the hands of essential industries. Here is your chance to really get behind the invasion. ACT NOW!

TAX RELIEF!

Special tax relief benefits are obtained on the gain from the sale of used construction equipment. Get all the facts from your Collector of Internal Revenue.

ALLIS-CHALMERS

TRACTOR DIVISION • MILWAUKEE 1, U. S. A.

BUY WAR BONDS · SAVE WASTE PAPER · TURN IN SCRAP METAL · BE A BLOOD DONOR · SELL IDLE EQUIPMENT

Public Safety

Why Denver Prefers Armor-Flex Markers

THE Traffic Bureau of the city and and county of Denver, Colo., installed a sample intersection of plastic markers in June 1943. We are all very much pleased with it and think the visibility far superior to paint. After the winter it shows no sign of wear or loss of visibility. We contemplate putting down all of our permanent markings with plastic.

An intersection with a heavy stop line for vehicular traffic, and a diagonal line between the pedestrian boundary lines, with directional arrows to keep pedestrian travel to the right, makes pedestrian travel flow faster and lessens the pedestrian's confusion in mixed crossing.

A durable marking costs more but its longer life pays for the difference. The cost over paint is offset in about two years and the life of the plastic is claimed to be ten years or more. Our comparative costs are:

Intersections painted at night (paying time and a half for labor) 4 intersections, one night's work:

1 painter, $1.22 per hour	$8.54
2 helpers, each $3.66 per day	7.32
1 driver, $4.16 per day	4.16
	$20.02
5 gallons of paint	10.50
1 painting a year	$30.52
3 paintings a year	91.56
3 paintings a year, 4 years	366.24

Armor-Flex Markers: 950 markers at 16th & Arapahoe Streets, $75 per M $71.25. Labor at one intersection $7.98. Total $79.23.

Labor is figured on the basis of using 1 painter and 2 helpers (driver not needed as with painting), completing two intersections a day. The number of markers depends on dimensions of intersection and arrangement of markers. At 16th & Arapahoe Streets there are 4 stop lines, each 18 inches wide, 8 lane lines, and 4 diagonal lines. The cost for markers could be reduced by change in design.

CAPTAIN FRANK F. CAMPBELL
Director of Traffic, Denver, Colo.

Two-Way Radio for Cabs?

AMERICA'S first two-way taxicab radio system will be installed in Cleveland, Ohio, by the Yellow and Zone Cab Companies after the war, subject to approval of the Federal Communications Commission.

D. L. Chesnut, General Electric commercial engineer who has been conducting the study reports that radio-equipped cabs would be very useful in emergencies growing out of fire, crime, accidents. "The taxicab industry in each major city," said Mr. Chesnut, "might draw up an agreement with the city permitting the police department to commandeer its radio cars and its headquarters station at any time

More People—More Motorcycles

THE Police Department of Bremerton, Wash., had only two motorcycles before the war, but now with the greatly increased population and the city's additional territory, we have increased the number to three solo-motorcycles with side cars and four wide servi-motorcycles. These motorcycles are used principally for traffic control, marking parked cars on the streets, checking meter zones, watching school intersections, convoying army trucks, and escorting funerals and parades.

All seven motorcycles are in constant use throughout the day six days a week, and two motorcycles are used on Sundays. Formerly, we had to go as far as Tacoma, Wash., to have our motorcycles repaired, but now we are fortunate in having an outstanding Harley-Davison repair man a few miles from the city. He takes care of our motorcycle troubles.

We have applied for a new servi-motorcycle to replace one of the first we acquired, which is in a worn-out condition. It would be a lot better to have a new one than try to repair the old one.

Considering its population, and the number of cars in the city, Bremerton could not do without the number of motorcycles we now have in the traffic division. This division also has one standard traffic car and another car, painted white and fitted with a loud speaker system, which is used as a safety car.

Captain T. K. Phillips is in charge of the Traffic Division. He has two Sergeants under him: Ted Ingram and B. J. Briggs, who watch all shifts and the equipment. There are ten men altogether in the traffic division.

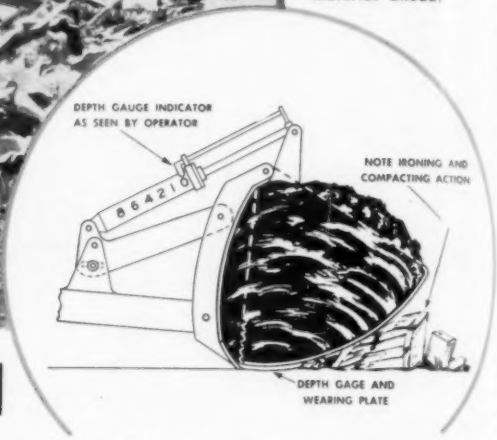
ARTHUR N. MORKEN
Bremerton, Wash.
Chief of Police

7 Harley-Davidson motorcycles in use 6 days a week in Bremerton, Wash. Increased population and expanded city area requires full time operation to administer traffic regulations. The corps now has 3 solo-motorcycles and 4 wide servi-motorcycles.

HERE WE GO!

After being dumped in the trench, refuse is thoroughly chewed-up and compressed by the Drott Bull Clam Shovel traveling back and forth over it and applying down pressure on the Clam.

Below: This drawing illustrates the ironing and crushing action of the Bull Clam Shovel. While sliding along it levels and compacts all material ahead.



THOROUGHLY COMPACTS RUBBISH

DROTT BULL CLAM SHOVEL METHOD OF SANITARY FILL

★

DROTT BULL CLAM SHOVEL FITS ALL CURRENT MAKES AND MODELS OF CRAWLER-TYPE TRACTORS, from 30 to 130 h.p. Four sizes. 1 to 4 yd. capacities.

★

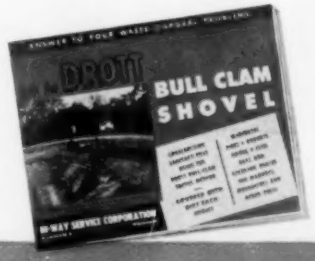
OPERATED BY

DROTT POSITIVE, CLOSED HYDRAULIC SYSTEM

SMOOTH • QUICK

Keeps dirt and air out... keeps oil in! Used successfully on Drott equipment for many years.

A Sanitary Fill made the Drott way gives you a compact, non-settling landscape that can be used with safety as a park, playground or building site. Employing the earth fill method, all refuse deposited in each trench is compacted into tight layers, one on top of another. Boxes, crates, barrels, drums, cartons, cans and garbage become a mixed, solid mass — are thoroughly chewed and compressed by the Drott Bull Clam Shovel traveling over them and by applying down pressure on the Clam. Besides thorough compaction, you get lowest cost disposal, location of site near source of pick-up and top soil coverage with the Drott Bull Clam Shovel Method of Sanitary Fill. We will gladly help you start one in your community. Write, wire or call.



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"Answer To Your Waste Disposal Problems... with the Drott Bull Clam Shovel"

FREE!

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EQUIPMENT

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739 Munsey Bldg.
WASHINGTON 4, D. C.

Stop—Check and Mail

Please check over the following list of interesting catalogs obtainable free of charge and either write direct to the manufacturers for their literature, or, if you prefer, put a circle around the identifying numbers below to indicate the catalogs you want, mail this coupon to The American City Magazine, 470 Fourth Ave., New York 16, and we will see that catalogs are sent to you without expense or obligation on your part.

8/44

303 304 305 306 307 308 309 310 311 312 313
314 315 316 317 318 319 320 321 322 323
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335 336 337 338

Name ---------- Position ----------

Address ----------

Pumps for Water Plants

303. If you are planning for post-war additions to your water plant, write the Morris Machine Works, Baldwinsville, N. Y., for specifications and prices of their pumps. This company, with a service record of over three-quarters of a century, manufactures a variety of pumps to fill water works' various needs.

Equipment for Sewage and Water Works

304. The Mueller Co., Decatur 70, Ill., offers a new catalog, No. A 300, describing such equipment as sluice and shear gates, floor stands, gate hoists, bench stands and a variety of valves used in sewage and water treatment plants, pumping stations and power plants. This catalog as well as other literature describing fire hydrants, gate valves, valve boxes, tapping valves and sleeves, and drilling machines may be had by writing the company.

Mimeograph Service Ideas

305. A. B. Dick Co., Dept. N-943, 720 West Jackson Blvd., Chicago 6, Ill., shows how to draw ruled forms on Mimeograph brand stencil sheets with or without a mimeoscope. The method is simple and the result a clean, crisp, professional-looking form. Literature about the Mimeograph duplicator, Mimeoscope and other devices offered by this company may be had by writing for them.

Weed-Killer Available in Limited Amounts

306. You may secure information about Dolge Weed-Killer by writing Dept. W-K, The C. B. Dolge Co., Westport, Conn. The company is now able to release this reliable weed killer in limited amounts for civilian use.

Tailor Made Pipe

307. Pipe that can be manufactured to specific weight for specific laying conditions should be an asset in any plans you are making for the post-war era. American Cast Iron Pipe Co., Birmingham 2, Ala., can supply you with literature on this pipe made to meet your exact conditions.

Combustion Control for Boilers

308. To show some recent installations of its full-metered system of combustion control, the Leeds & Northrup, 4934 Stenton Ave., Philadelphia 44, Pa., has issued a revised Metermax catalog. Embodying in this 37-page edition basically the same engineering descriptions as were presented in the earlier 1939 publication, the present book presents in special photographic form illustrations of the various features of design which are said to contribute to the equipment's reliability. Write for Catalog N-01M-163.

Protect Your Exhibits

309. Have you plans to have post-war exhibitions for the citizens of your community? The Museum Case Division of The Michaels Art Bronze Co., Inc., Covington, Ky., will send you an illustrated leaflet with complete information on their Time-Tight Exhibit Cases, with "Interlocking" frames, that are in use now for just such exhibition purposes.

Floors Can Be Efficient Too

310. When designing your post-war water, sewage, or municipal electric plant, don't overlook that inconspicuous and unobserved servant, the floor. As pointed out in the new bulletin, "Industry's Magic Carpet," issued by the Kerlow Steel Flooring Co., 222 Culver Ave., Jersey City 5, N. J., the strategic use of open flooring will enable operators, engineers and laborers to walk sure-footedly beside heavy equipment; it will make it possible for air to circulate freely, and it will facilitate cleaning and admit more light. When writing for this bulletin, ask for catalog MC 43.

Flushing Streets in One Trip

311. Proper flushing of streets eliminates extra work for your city forces and provides an attractive well-ordered street appearance. Street flushers manufactured by E. D. Etnyre & Co., Oregon, Ill., cleans an area up to 42 feet wide and through the use of a special spray arrangement are able to flush the street surface thoroughly in one trip. Bulletin 306 discusses these points, illustrates and discusses various working parts of the machine, and shows how Etnyres are used for other purposes such as sewer cleaning, surface sprinkling, fire fighting, tree spraying, and flushing snow and slush.

Modern Fire Fighting Apparatus

312. The latest in fire fighting apparatus should be the rule for post-war plans for your community. Information is available from the Mack Mfg. Corp., Fire Engine Division, Empire State Bldg., New York 1, N. Y., giving you details that will make Mack's line of fire apparatus an important addition to your community.

Clarifier Mechanism for Sewage Treatment

313. Sewage treatment officials will be interested in Bulletin 6710 of Yeomans Brothers Co., 1433 N. Dayton St., Chicago 22, Ill., on the Yeomans "Rim-Drive" clarifier mechanism. The introduction of this bulletin discusses the feature of the unit, the placement of the motor, controls and all elements of power transmission on the rim of the tank and its subsequent advantages and savings. A discussion of the operation of the "Rim-Drive" mechanism is included as well as specifications of the clarifier with "Auto-Skimmer" and "Auto-Flusher."

Prolong Life of Steel Water Tanks

314. Literature is available from the Electro Rust-Proofing Corp., Dayton 10, Ohio, on Rustop, their electric method of preventing corrosion. The information available describes how this process works on old and new tanks, how it is installed, and all other important features necessary for prolonging the life of steel water tanks or other types of submerged metals.

Shovel for Handling Material

315. Municipal officials will be interested in receiving a copy of Bulletin 144 published by The Frank G. Hough Co., Libertyville, Ill. This illustrates and discusses the Payloader shovel and shows the many purposes for which this machine may be used. It has been put to use by municipalities wherever bulk materials must be loaded, moved or handled.

Meters for Measuring Rates of Flow

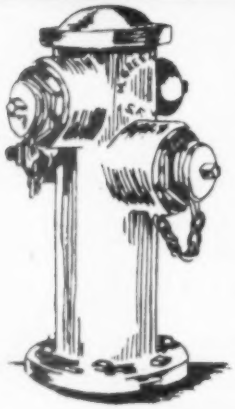
316. Containing information of value to engineers with flow-rate problems, Fischer & Porter Co., 975 County Line Rd., Hatsboro, Pa., offer a new, interesting, instructive catalog on the F&P Rotameter, the area-type flow meter for accurately measuring the flow rate of liquids and gases. Catalog 10-B contains 32 pages of the latest information on this instrument. Each advantage of the Rotameter is thoroughly discussed—how it works, its accuracy and, how it can be made immune to variations in viscosity and specific gravity.

Clean Mains Improve Service

317. The water mains in your community will give far better service if they are thoroughly cleaned in order to function properly. The National Water Main Cleaning Co., 30 Church St., New York 7, N. Y., is ready to give you information on their method of cleaning water mains, telling you just what the process involves, the equipment used, and giving you information on the results already obtained by other cities throughout the country.

(Continued on page 20)

A COMPLETE HYDRANT SERVICE



Originators of the CALIFORNIA type of Hydrant, with INDIVIDUAL, integrally constructed globe type valves on all outlets. We have manufactured and sold this type of Fire Hydrant with its various improvements continuously for over seventy-five years. This is the Fire Fighter's Ideal Hydrant for use in non-freezing climates. Sold through your jobber.

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Story of Hydrants for all Climates . . .

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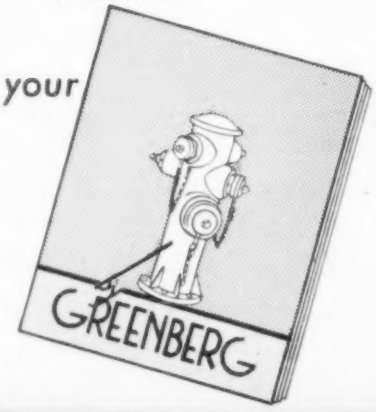

STABILITY
Since 1854

M. GREENBERG'S SONS
765 FOLSOM STREET ★ SAN FRANCISCO, 7

CHECK THIS COLUMN— AND USE COUPON ON PAGE 19

(Continued from page 19)

Street Maintenance Equipment

318. Street maintenance work in your community will be aided by the use of proper equipment. A catalog is available from the Connery Construction Co., 2nd & Luzerne Sts., Philadelphia 40, Pa., discussing their line of tar and asphalt heating kettles, spraying attachments, pouring pots and other equipment used in this type of work.

Pipe Coupling

319. City engineers will be interested in a folder from Gustin-Bacon Manufacturing Co., Kansas City, Mo., on Rolagrip for coupling pipe. The booklet shows that these couplings can be used on plain- or beveled-end pipe and tubing and discusses the advantages this produces. Diagrams show that the seal is effected by means of a gasket over which is placed a corrosion-resisting malleable iron housing. This housing is equipped with steel rollers that grip the pipe. The bulletin also contains information on the endurance of the seal, the controlled flexibility, shows how the couplings are installed, and the rate of reclaimability.

Water-Works Equipment

320. Water-works officials desiring information on equipment to be used on their water-works systems can secure data from the Iowa Valve Co., Hubbell Bldg., Des Moines, Iowa, on their line of fire hydrants, gate valves, electric and hydraulic valves, check valves, sluice gates, tapping valves and sleeves, and shear gates.

Eliminate Dust from Streets

321. Solvay Sales Corp., 40 Rector St., New York 6, N. Y., are offering a free folder that will assist you in eliminating one of the summer's greatest nuisances. This folder discusses the application of Solvay Calcium Chloride to streets, alleys, playgrounds, parking areas and municipal tennis courts to end dust nuisance. It also serves to bind the surface, and kill grass and weeds.

Iron-Case Water Meters

322. Information on water meters may be obtained from Pittsburgh Equitable Meter Co., Pittsburgh 8, Pa. You will be especially interested in Bulletin No. W535 discussing the features of the Pittsburgh Ironside iron-case disc meter. This is constructed of cast iron but the bulletin lists the care the company has taken to see that it is fully rust-proofed inside and out. Other features discussed are the molded glass register box, the construction of the various parts of the meter, and the provision made for protection against frost. Specifications are also included.

Self-Priming Pumps for Tough Dewatering Jobs

323. Details on Rex speed prime pumps is contained in Bulletin 455 published by the Chain Belt Co., Milwaukee 4, Wis. Illustrations and simple details of the various working parts of the equipment together with specifications, capacity data and a description of how the self-priming principal works gives you information on the various models available for your needs.

How to Clean Water Pipe

324. Water works superintendents will be interested in literature from the Flexible Underground Pipe-Cleaning Co., 9059 Venice Blvd., Los Angeles 34, Calif., showing how Flexible equipment can clean two-inch to 72-inch pipe to remove scale, tuberculation, sand and algae. Illustrations show on-the-job pictures of the equipment in action.

Chemical Feeding

325. Bulletin SAN-2 is available from %Proportioneers, Inc.%, 99 Codding St., Providence, R. I., on their heavy duty Chem-O-Feeder for automatic chemical treating of pumped water supplies. This catalog discusses the main features of this equipment including the "see thru" reagent head, the feeding rate that is instantly adjustable, the continuous feeding feature, and its suitability for feeding ammonia, soda ash, aluminum sulphate and many other applications as well as hypochlorate solution.

Sanitary Garbage Collection Units

326. If additions are being planned to your garbage collection fleet why not look into the Heil garbage disposal unit? Bulletins are available from The Heil Co., Milwaukee 1, Wis., giving you the facts on this all enclosed sanitary model including its low loading height which provides handling conditions for your employees.

Equipment for Keeping Streets Clean

327. If your street department is not thoroughly equipped with street maintenance equipment, you may receive information of value from the Municipal Supply Co., South Bend 23, Ind. They manufacture a complete line of street sweepers, flushers, and sprinklers, bituminous distributors and bituminous maintenance units.

(Continued on page 22)

Call Ryerson ...for quick steel

CALL THE PLANT NEAREST YOU

CHICAGO.....16th and Rockwell Sts.
Rockwell 2121

MILWAUKEE.....320 So. 19th St.
Mitchell 7000

DETROIT.....1600 E. Euclid Ave.
Madison 3860

ST. LOUIS.....5 Clinton St.
Central 1020

CINCINNATI..Front St. and Freeman Ave.
Cherry 3232

CLEVELAND...E. 53rd and Lakeside Ave.
Henderson 1000

PITTSBURGH.....330 Grant St.
Walnut 7540; Carnegie 795

PHILADELPHIA.....5200 Grays Ave.
Bell-Belgrade 1412; Keystone-West 1644

BUFFALO.....40 Stanley St.
Humboldt 3311

NEW YORK.....203 Westside Ave.
Jersey City, N. J.
New York City.....Rector 2-3700
Newark.....Market 2-6067
Jersey City.....Bergen 4-1123

BOSTON..Third & Binney Sts., Cambridge
Kirkland 6000

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Over 10,000 kinds, shapes and sizes in stock...

PROMPT, PERSONAL SERVICE ASSURED

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END DUST!

on streets, alleys, playgrounds, parking areas, tennis courts

Here's an easy way to keep surfaces dust-free in spite of shortages of equipment and reduced manpower. Simply apply flake Solvay Calcium Chloride on cinders, clay, graystone, earth, gravel . . . it ends dust, binds the surface, and kills grass and light first-growth weeds.

Solvay Calcium Chloride has been used successfully by city street departments, playground commissions, and park departments for over 25 years.

Write for descriptive free folder today — gives complete information!

SOLVAY CALCIUM CHLORIDE

The clean odorless way to end dust and weeds

SEND FOR THIS FREE FOLDER

Solvay Sales Corporation
40 Rector Street, New York 6, N. Y.

Gentlemen: Please send me free of charge your booklet explaining the Solvay Calcium Chloride Method of ending dust and weeds.

Name _____

Affiliated with _____

Address _____

City _____ State _____ 61-8

CHECK THIS COLUMN— AND USE COUPON ON PAGE 19

(Continued from page 20)

Flags and Banners for Your Community

328. Illustrated price lists are available from the American Flag & Banner Co., 127 N. Dearborn St., Chicago 2, Ill. No. FAC discusses their line of outdoor flags, and price list No. AC deals with honor rolls used by communities for displaying anywhere from one name to thousands.

Know the Pipe to Use in Your Sewerage System

329. If you are planning post-war sewerage projects in your community you will want to have a copy of the Armco Sewer Book published by the Armco Drainage Products Assn., 195 Curtis St., Middletown, Ohio, discussing the characteristics of Asbestos-Bonded Armco sewer pipe. The features of this pipe including its flexibility, light weight, and thick pavement to resist wear in the bottom, produce several advantages that will make it attractive for use in your sewerage system.

Detect Water Waste

330. Water works superintendents interested in eliminating the costly waste of water that results from small pin-point leaks will obtain valuable data from the Globe Phone Mfg. Corp., Dept. H, Reading, Mass., on the Globe Geophone. This equipment works on the principle of a seismograph and detects the position of leaks when placed in contact with the earth, without the necessity of expensive excavating.

Fresh Life for Street Sweeping Brooms

331. Municipal street superintendents are well acquainted with the economy effected by using fresh broom fibres in mechanical sweepers. The Otto Gerdau Co., 83 Wall St., New York 5, N. Y., will send you valuable data on the line of fibres they stand ready to supply for your needs.

Voting Procedure Simplified

332. The advantages of speed, accuracy and secrecy as well as lowered election costs are apparent in the automatic voting machines offered by the Automatic Voting Machine Corporation, Jamestown 55, New York. These machines will be used this presidential election year by 3,500 cities, towns and villages throughout the United States. Literature which describes this machine in detail is available on request.

For Treating Water and Sewage

333. Both water works and sewage treatment operators will be interested in Bulletin 120 from the Lakeside Engineering Corp., 222 W. Adams St., Chicago 6, Ill., on the Spiraflo Clarifier which skims, flocculates, and clarifies, and is adoptable to both water and sewage treatment. This bulletin contains a brief discussion of the construction and operation of this system, a cross-sectional view showing the flow through a settling tank and sludge blanket, and a list of the advantages of the equipment.

Black Top Maintenance Equipment

334. Street maintenance men will be interested in information available from Littleford Bros., Inc., 500 E. Pearl St., Cincinnati 2, Ohio, on their Model No. 84-HD maintenance kettle. Your post-war maintenance problems will be easily met with this piece of equipment which provides greater heat distribution and a constant flow of melted material.

Truck Tire Care

335. Because of critical shortage of truck tires information on truck tire care is of utmost importance to municipalities. An informative booklet has been published by The B. F. Goodrich Co., Akron, Ohio, entitled "How to Prevent Truck Tire Failures." This has been prepared to acquaint you with the most common causes of truck tire failures and point out how these can be prevented by paying attention to some simple rules. It is illustrated with pictures showing the common causes of failure and what can be done to forestall their action.

Equipment for Water Works

336. Water works officials will be interested in securing bulletins being offered by the Manistee Iron Works Co., Manistee, Mich., on centrifugal pumps, fire hydrants and gate valves. Of particular interest might be single-stage, double suction pumps, 75-20,000 gpm capacity or multi-stage, and 50-3,500 gpm capacity with heads up to 1,600 feet.

Chemicals for Water Plants

337. If you are interested in a coagulant to work effectively in your water works plant, the Tennessee Corp., Atlanta, Ga., will send you data giving actual case histories of plants now using ferrifloc and showing the results obtained.

Pump Data

338. De Laval Steam Turbine Co., Trenton 2, N. J., are offering catalog P-4094 discussing the features of De Laval pumps. The power limiting characteristics of these pumps make it possible to secure the maximum motor efficiency at the load giving maximum pump efficiency.

Vol. LIX, No. 8 The American City August, 1944

Will Cities Come of Air Age?

Problems Demanding Prompt Consideration by All Air-Important Cities, Both on Their Own Account, and As Parts of the Nation's Air-Transport System

By MAJOR ALBERT MAYER

IN TWO PARTS

Part I

PREDICTIONS as to the potentialities of the airplane are limitless, whether the speaker is a smoking-car oracle in a railroad train, a visionary social planner, or an unusually hard-headed executive. Whether there will in our lifetime be 8 planes per thousand population as one aviation authority has assumed, or one for every 350 people in the Chicago area by 1960 as the Chicago City Planning Commission assumes, or more or less, there can be no doubt that we are on the threshold of a tremendous increase in the use of the airplane. The available facts speak emphatically enough, without any violent extrapolations. For example, between 1935 and 1942, a not particularly spectacular period in the history of aviation, passenger travel increased over 500 percent, to reach a volume of some 17 percent of Pullman traffic. The figures for air-mail are even more impressive. The danger may be that the public expects too much of aviation, while actual preparation for its full-grown advent may be too little.

Doubtless the impending air age will produce revolutionary changes in world relations, will open up new countries and new resources, will profoundly affect men's thinking and reactions. Speculation as to its remoter effects on the texture of our country and of its cities are properly a part of this discussion, and will be touched upon later. But certain specific, much more tangible and very urgent questions are the main subjects to be examined, such as: What is or should be the effect on city plans? What will be the role of airfields and air travel in the life of cities? What will the airports themselves be like? What specific planning should be done and what specific action taken by air-minded cities to avoid the extremes of technological backwardness, or on the other hand of over-extravagant installations which by premature heavy expenditures may defeat their own purpose?

Urgency of the Problem

The problem is of the highest urgency. The war has dammed up the inevitable up-trend of civilian flying and of air mail. At the end of the war there will be a great upsurge within a relatively short period, which would otherwise have been reached by more gradual growth. In addition there will be a tremendous accumulation of former army pilots, service men and facilities, factories, all waiting to go. According to *Time*, the armed forces will by the end of 1943 have trained 3,000,000 men in all phases of aviation. At the same time, air travel will get an artificial competitive advantage in that it will take time for automobile manufacturing to re-convert and to catch up to the prospective demand, while the aviation industry already has some war transport types that can be directly used in civilian cargo travel, and has blueprints ready for greatly improved passenger planes of much larger capacity than hitherto.

However, the extent to which, and the rate at which, air travel and transport will cut into present competing surface transportation, or create new transportation business, will depend to a very large extent on the degree of relative convenience, saving in time, and on the comparative costs as among alternative methods of movement. In this respect, the tremendous role being played by the plane in this war may be misleading. The plane as a weapon and as a transport medium is so overwhelmingly important in destructive power and logistic superiority that its development and use are essential regardless of cost. But after the war competition of the air medium with surface transportation will involve continued technical development of the plane itself and revolutionary improvement and radical economies in terminal facilities, in passenger and cargo handling, in servicing, in speeding up terminal operations and in handling of traffic between air terminal and the ultimate destination of every passenger and every piece of mail or freight.

Thus the planning of airfields and air-age cities is vitally important in two ways. The city that doesn't properly prepare itself, and that quickly, will be at a competitive disadvantage. And if *all* air-important cities don't solve these problems satisfactorily, air traffic as a whole will suffer, will not be accepted as a full-fledged medium of transport and travel. It would be as though the Pennsylvania Railroad had an excellent modern terminal in New York, and a totally inadequate one in Philadelphia where the traveler was delayed and put to inconvenience due to inadequate trackage and servicing. Under those circumstances, the traveler to Wilmington would probably drive his own car and save himself time and irritation. In fact, and on a less noticeable scale, this is precisely one important cause of loss of passenger and freight traffic by railroads to motor transportation.

Composite Development Essential

The key to our particular problem is this: that except for cities inaccessible to railroads without excessive expense, such as those in Central and South America or in China, places in the jungle or in the Arctic where the airplane will supply the cheapest, most readily available and only modern means of access, the airplane is a vital addition to other modes of travel

—automobile, railroad, steamship—but will by no means replace them. Air travel, air mail, air cargo will be vitally important to a city's life, and those cities that don't fully develop their air possibilities will suffer increasingly as time goes on. That is equally true of cities that don't re-conceive and rebuild their road systems, rail facilities and their business centers. The indispensable concept, in this country at least, is this composite development.

Practically every city expects to be the hub of the air universe. Air maps are being made and publicized in many a city with that particular city as its center. Nor is this just the pipe-dream of every good Chamber of Commerce secretary. Except for extraordinary climatic and topographic conditions, the old advantages of river, harbor, railroad valley, lose their significance as far as purely air travel is concerned. And with the rapid development of blind or instrument flying, de-icing devices, radio signal and control, increased flying range, the limitations of climatic conditions are rapidly being obliterated, and the importance of exact location becomes minimized. This means that the world of air-traffic is much more of an open field, much less tied to the accidental advantages of nature than in the earth-tied world of the past, more dependent on the foresight, boldness, and prompt action of those who direct the destinies of cities.

Air traffic will share the transportation field with automobile, railroad and shipping. It will no more replace them in their entirety than the automobile—revolutionary as its effect has been—has replaced the railroad in its entirety. By and large, air traffic will most frequent those cities where there are the maximum concentrations of present activities, provided efficient and integrated provision is made for them. *However, if through inertia, or because of the burden of excessive land costs or otherwise, any city fails to make proper provision for this powerful new transportation tool, that city will certainly fall behind and yield position to others.* The airplane will certainly loosen the natural monopoly inherent in the past in the possession of, for example, a good harbor.

Dominent Concept Must Be Plenty of Room

In the design of airports, air cities, airways, the one dominant concept must be *plenty of room*. We know that even now runways for large planes have got to be over a mile long, that beyond that we need low angles of rise or glide angle. This means that even as of now a good roomy main line airfield should measure about two miles on a side.

We also know that to expand the CCA airfields built only a few years ago with 3000-foot runways to present-day use has in many cases been tremendously costly, because of land prices and topographic difficulties, and that in some cases it has been actually impossible due to the obstructions offered by important highways, railways, rivers, mountains. The great wing loads and landing speeds of military flying require runways up to 6,000 feet but they exceed desirable safety factors for peacetime flying. This may presage a limit to the length of runways but not to the area required for peacetime traffic. Certainly a strategically located city that doesen't want to be left behind in an air-age would be short-sighted to fail to provide an area for main passenger airfields expansible to between two and three miles on each side.

Major Albert Mayer is well known in city planning circles. An architect in civilian life and a partner in the New York firm of Mayer and Whittlesey, he has contributed widely to civic projects. Formerly an engineer and president of the J. H. Taylor Construction Co., his background has served him well in the Army Air Corps Engineers. From his service here and abroad in the siting and construction of airports he has thrown a clear light upon the problems of our cities in the coming air age. This is the first of two timely articles written for THE AMERICAN CITY.

This disposes of two facile current conceptions; that a major airport can be close to the center of a large city, and that new cities will spring up "around an airport." Any such new city would have for its center a great gap of empty space with an air terminal building and some hangars in it—the very opposite of the compact essence of a city center. While further technical developments in the plane itself may produce high-speed large-capacity planes capable of taking off and landing with shorter runways, the present tendency is all the other way. And, even so, there is a permanent factor militating against this airport-city-center idea. No matter what degree of technical perfection is attained in planes, there will always be some accidents, some defect which requires an immediate landing—for in the air you can't just pull over to the nearest garage. Hence for flying safety, and for the safety of those below, it is desirable to select flight channels that avoid building and population concentrations.

The Ground-Travel Problem

And the real practical defect of air-line travel—that the ground-travel time from airport to city center consumes an amount of time disproportionately large as compared with air-travel time—must be overcome by other means than to have it physically near the city's center. This would be true if we were building entirely new cities of any magnitude. It is doubly true when we consider the existing city, or existing cities in a metropolitan area. Another usual but generally impossible concept is that airport and railroad station can be close to each other. The railroad station can and should be in the center of town; the airport simply can't be. (In some cases, as will be seen later, a cargo airfield may be close to railroad freight facilities.)

We must cut down the time loss from air terminals to city center by high-speed transportation, by express highway for bus and taxi, and by terminal-operated helicopter service. The ideal solution would be a wide parkway. The volume of helicopter-taxi traffic will be very large. The helicopter could fly over existing buildings, but for maximum speed and safety with this volume of traffic, special direct low-flying lanes with no cross traffic by other helicopters, such as a direct open strip would provide, would be an enormous advantage. Such a strip, say 500 feet wide, could become a city feature which could also be utilized as a recreation area, paid for out of revenues from the air companies using the facilities. Quick stops could be made at various points on the way in to the center. In cities with more than one airport, there would be several such radial strips. Here would be one recognizable effect of the plane on the city pattern.

In planning for airfield requirements, solutions will certainly differ even as between cities of equal air-importance. For example, Chicago, Seattle, or Cleveland may prove exceptions in being able to have a field quite close to the city center on made land in Lake Michigan or Puget Sound or Lake Erie. The specific planning solutions for the primary air-city will as a class be different than for secondary cities, though the functions and principles will be very similar. In major cities air cargo and air passenger traffic may need to be segregated almost immediately when post-war traffic gets

(Continued on page 81)

Cities Can Destroy Poison Ivy

Brookline, Mass., with a population of 52,000, has after 9 years of effort to control poison ivy finally found an effective, safe method of destruction

By GEORGE OTIS TAPLEY
Director of Poison Ivy Control
Brookline Board of Health
Brookline, Mass.

IN many communities throughout the United States poison ivy flourishes to such an extent that a high percentage of people, especially children, at one time or another have suffered its disagreeable effects. Brookline is one town that is doing a real job of destroying this weed. Here's how it all came about.

In 1933: A number of complaints were made to J. Albert C. Nyhem, Director of Fly and Mosquito Control, about poison ivy growths on playgrounds. Inspections indicated 58 growths, 41 of which property owners destroyed by cutting and burning.

In 1934: Inspections showed 92 growths but citizens expressed a fear of handling the plant.

In 1935: Eleven complaints were received and 230 growths found. No one could be found to destroy them.

This condition continued until 1937 when Dr. F. P. Denny, the Health Officer, requested an appropriation for the work of eradication which would be conducted by the Health Department. The appropriation was not approved. Requests were made yearly thereafter without success until 1941 when an appropriation of $2,026.23 was voted for the destruction of poison ivy and ragweed. The direction of this work came under my supervision at that time and 603 growths were listed.

In 1941: Many different methods of control were tried by the Health Department: (1) blow torches, (2) common salt solution, (3) borax powder, (4) fuel oil, (5) sodium arsenite solution, and (6) copper sulphate solution (highly acid). None of these proved satisfactory for municipal work.

In 1942: With an appropriation of $1,615.34, a chemical weed killer, ammonium sulfamate, a translocated spray, was tried. The results were gratifying. Whereas in 1941 a destruction of 31 percent was effected, now a 59 percent reduction was secured. In 1943 with a season's experience behind us we were able at a per capita cost of .008 cents to increase the percent of destruction to 84 percent.

Thereafter, the Department used ammonium sulfamate to the exclusion of all other materials and methods except for the cutting of large vines. The Health Department has two men devote one day a week from May to October to this work. Records are kept of each location where the vine was treated and the following year the men check the effectiveness of the treatment. In this way a year-to-year continuity is maintained indicating the progress made. A complete card record of citizens' complaints, inspectors' reports and treatment given are kept in card files to aid the work.

Citizens have become familiar with the ease and effectiveness of the treatment and are now helping the Department with the actual work of eradication with no fear of ill effects. Indeed the Department has had only one case of poison ivy reaction and that was a case of a worker who had had poison ivy inoculations.

Ammonium sulfamate, a fireproofing agent, is in great demand by the military but is given priority for public health work. It will corrode sprayers, but by carefully rinsing the sprayer with plenty of water several times, and then forcing a little fuel oil through the system every night, after use, the sprayers have served us for three seasons with only minor repairs to gasket and inside cylinder tips. This chemical does not sterilize the soil but really adds valuable nitrogen to the soil.

By carefully controlling the spray when working around valuable shrubs and trees only the leaves of the poison ivy are wetted and the trees, plants, or shrubs are not damaged.

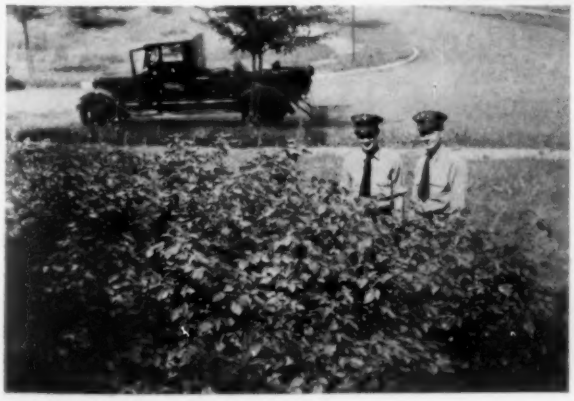
To destroy poison ivy the plants should be sprayed with a chemical. In 36 to 48 hours the layer of leaves un-

(Continued on page 117)

LEFT: *These are the tools used by Brookline to eliminate poison ivy.*

LOWER LEFT: *A patch of poison ivy before it was treated.*

LOWER RIGHT: *The same patch after treatment.*



Mexico City Formulates A Plan for Water Supply

For the Federal District Up to the Year 1965

By LAVERN A. MILLER
Miller Engineering Service
Streator, Ill.

AS the District of Columbia is the center of the economic, financial, and political life of the United States, so is the Mexico City Distrito Federal of the Republic of Mexico to the development of Mexico. Here the pattern for economic, financial, and political life is set and from here comes the propulsion to progress for the whole of this important neighbor republic.

Just as the development of adequate water supplies has been important to our nation's capitol, even more so is it important to Mexico, D. F. Actually, Mexico City's water supply development paralleled the more spectacular and courageous trail that Los Angeles had to blaze to assure the important place it has since assumed. To Mexico City the problem was somewhat less difficult to solve, yet the urgency of its solution was even more pressing than that of Los Angeles, for upon its growth the future of the whole of Mexico depended.

It has been my good fortune to complete recently some three months of research concerning the facilities for the supply and distribution of potable water throughout the Mexican Republic and to have access to the files and records of the various departments of that government which have prepared the program of long-range planning now in the process of construction.

The development of this water supply for Mexico, D. F., falls under the personal direction of Senor Engineer Eduardo Molina, Director General of the Departamento De Aqua Y Saneamiento, or the Department of Water and Sanitation.

A Model

The Senor Engineer will be recalled by many members of the American Water Works Association since he has been in constant attendance at the Annual meetings for the past several years, and is an aggressive, absorbent, progressive engineer who is developing a system of water supply and distribution for Mexico City which may well be studied as a model by many of our municipalities here in the United States.

This system, part of which has been completed in the immediate past, some now in process of construction, and others projected for construction over a period of 20 years, represents an outstanding compliment to the foresight and technical skill of the director and his staff. It is the result of sound, long-range planning and is in no way associated with post-war planning.

In order to understand the magnitude of the accomplishments in the line of water supply it is necessary to understand a bit of the background of the peoples of Mexico. When one crosses the Rio Grande he is transplanted from a country representing the utmost in industrial, economic, and technical development into a land that has only within the past decade begun to tackle the problems of industrial and technical advancement.

This land, rich beyond imagination in natural resources, is seeped in the culture of old Spain and that of the Aztecs and Toltecs. It is a land embracing one of the most highly developed cultures of centuries ago and including tremendous edifices for religious rites, among them pyramids larger than the famed Cheops pyramids of Egypt.

In this land of great potentialities one finds aqueducts built in the thirteenth century, aqueducts built by the conquistadores, and modern high pressure distribution lines all converging at the same point, indicating the means of supplying water throughout the centuries of Mexico's history.

To readers who have had no personal contact with Mexico it is neces-

The Xoteping pumping station. The new aqueduct will originate to the right of the peak at the upper left.

sary to assure you that the day of the water vendor using a pack burro is past. In the Federal District with its large population of nearly two million, 92 percent of the population is served from the municipal water supply. This is well worth checking against many of our municipalities here in the United States.

The problem of supplying water for Mexico City is just as unique as is its background. Mexico City is built in a plateau or saucer-like area which is an old lake bed, 7,300 feet above sea level surrounded by a ring of mountains.

Up to the turn of the century attempts were made to provide an adequate water supply by means of shallow or driven wells but these produced from only a negligible amount up to approximately 160 liters per second (2,536 gpm). There were 46 of these wells recorded, having an average production of about 50 lps (793 gpm) each.

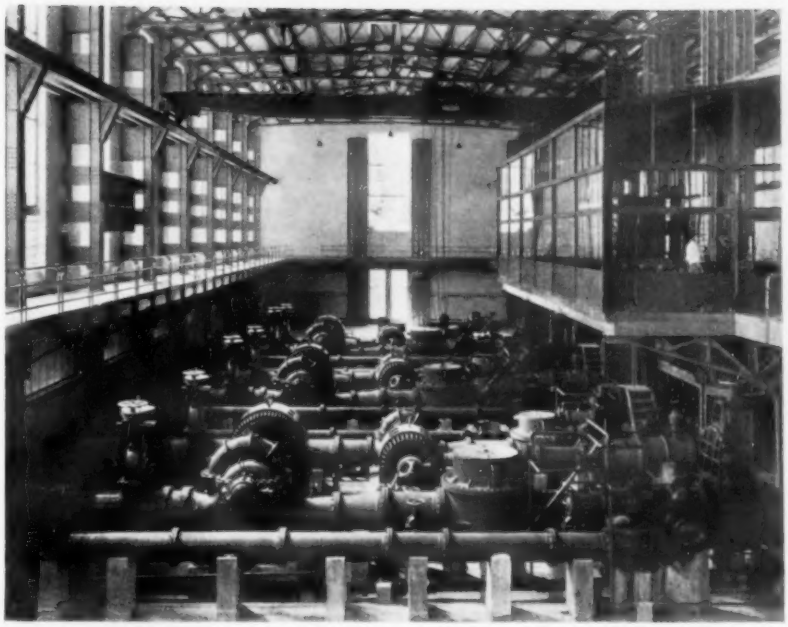
Following the turn of the century production from these sources was definitely inadequate to meet the demand and in 1912 the first major permanent expansion of the system was undertaken. This entailed the construction of an aqueduct to tap the supply of spring waters at Xochimilco, 33 kilometers or 20½ miles to the southeast of the central pumping or redistribution station.

The water at Xochimilco is filtered by nature, through volcanic rock, and when picked up at the pumping sumps is crystal clear and bacteriologically pure. At that time the supply from Xochimilco met the immediate need.

However, some five years later fractures developed in the aqueduct causing the loss of some 1,100 lps (17,437 gpm). This loss together with an increase in population again created an acute condition and a system of intermittent operation was adopted and used until 1928.

At that time the insufficient water supply was so acute that it became necessary to study the problem in order to find a solution. Accordingly a commission of engineers was appointed and as a result of their studies a plan of development was prepared covering the immediate needs and those up to 1965. This meant substantially a plan projecting the development over a period of 35 years. This plan was adopted almost immediately upon its presentation and the initial funds amounting to 25,000,000 peso ($5,000,000) were appropriated.

Work on the plan was undertaken at once. The old masonry aqueduct to Xochimilco was replaced with steel tubes and all the waters from this source are now carried to the intake or suction manifold to the newly constructed ultra-modern central pumping station built on the old Xotepingo rancho and known as the Xotepingo Pumping Station.



UPPER RIGHT: *Half the control room equipped with Minneapolis-Honeywell controls.* CENTER: *Allis-Chalmers pumps. Valves are electrically operated Chapman valves.*

In order to maintain the bacteriological purity throughout the distribution system—even though the water entering it is bacteriologically pure—small dosages of chlorine and ammonia are added.

Upon the ultimate completion of the plan, the system will have a total of 10 turbine pumps discharging into 5 distribution mains. At present 6 Allis-Chalmers pumps are in operation.

Present Capacity

The present capacity of the plant is three units of 1,500 lps (23,778 gpm) each and three of 750 lps (11,889 gpm) each and provides flexibility up to 6,750 lps (106,998 gpm) and is in excess of the water supply from Xochimilco. Present plans call for the installation of two more units of 750 lps (11,889 gpm) which is sufficiently in excess of the demand as planned to allow alternation of unit operations for repair.

One of the advantages in a plan designed for a long period of years is that if an unpredictable emergency arises the plan can be used ahead of schedule. Just that was done when the new pumping station and Condesa aqueduct was built. This construction enabled the recovery of the original loss of 1,100 lps and completed the original plan for improvements up to 1945.

Later, however, added water supplies were needed and a plan for an aqueduct from the Rio Lerma involving the construction of some 14 kilometers (8.7 miles) of tunnel through the mountains and 42 km (26.1 miles) of aqueduct via steel tubes. The estimated cost of this project is 32,000,000 pesos ($6,400,000). It will be completed within the next two years.

The water from this new source will discharge into the suction manifold of the Xotepingo pumping station for redistribution. Three additional mains and new pumping units will be installed to distribute the water. When this new aqueduct was planned the officials decided to utilize the water to generate electricity. Accordingly, generating turbines were installed in the flumes for that purpose, while at the same time they act as pressure head reducers.

The Xotepingo pumping station is one of the most compact and efficiently designed plants I have ever seen. The control room is in the center of the plant commanding a view of every piece of equipment and every worker throughout the plant. At his station, the operator has a complete record of motor loads as well as input and output records, records of each individual pump, showing suction level, operating head and production in liters per second.

In addition to this visual knowledge of what is happening in the plant he has at his finger tips the controls for all of the electrically operated valves controlling all manifold, suction, discharge or distribution routings, and the controls for operating all the pumps so that he is able to meet the variable demands for water.

Nothing has been spared to provide the utmost in operating efficiency.

Wilmington Recreation Program

Meets Juvenile Delinquency Threat

IF you are thinking of setting up municipal recreation centers to provide wholesome recreation to help combat juvenile delinquency and other wartime problems, here are some of the principles to follow, based on the experience of Wilmington, N. C.

First, it is important to have a capable superintendent. Wilmington selected J. A. Reynolds for this job, bringing him from Richmond, Va., and placing him in complete charge of all recreational facilities that are under municipal jurisdiction.

Next, and probably most important, the recreational program should be divided into neighborhood units under the general jurisdiction of an advisory council. Forming this council should be at least six local people, preferably participants or prospective participants who are genuinely interested in developing a broad community recreation program for all age groups. High officials and people in important positions do not always make good council members. In the Wilmington plan there is on every council at least one boy and one girl to register the viewpoint of the youngsters.

These councils are advisory in capacity only and have no legal status. They serve as a liaison between the directors of the program and the members of the community. On their interest and enthusiasm depends the success of the neighborhood activities.

The program was set up in August of last year when surveys showed a marked lack of adequate recreational facilities. Even such standard commercial amusement centers as bowling alleys, movies and pool halls were not nearly numerous enough to serve the war-boosted population. Formal opening was on October 1 financed partly out of a $38,000 Federal grant and a $23,000 local appropriation, an approximate ratio of the way the population grew since war activities began.

As stated previously, each group activity is keyed to the needs of the neighborhood that it serves. However, at Wilmington interest seems centered around 10 separate groups: athletics, clubs and classes, dramatics, arts and crafts, hobbies, music and rhythm, nature, social recreation, special events, and dances of various types.

To conduct these activities, the city uses all available amusement centers. All school gymnasiums are utilized as well as public housing projects, YMCA centers and other similar facilities. The arrangement has been that the city maintains the facility while activities are being conducted, and the space be furnished them rent free. Equipment and supplies are furnished by the city. Thus, far more than $5,000 has been spent on swings, athletic apparatus, and similar equipment.

The program is all-inclusive, embracing age groups varying from 7 to 70, or older if interest is exhibited. Superintendent Reynolds states. The work starts in the early afternoon giving amusement to the youngsters who otherwise might be roaming the streets unsupervised. Later in the day the older children enter into the program and finally towards evening the teen-agers and adults join in the activities.

"Teen-agers in most places are the forgotten group," says Mr. Reynolds. "At an age where they have passed from the dependency of childhood and yet not readily acceptable in adult groups, they generally find few interested in them and the opportunity for wholesome activities limited, especially in war production centers. Delinquency of these groups is more the fault of the community and the parents than of the individual teen-agers themselves.

ABOVE: *Teen-age spring dance given by one of the recreation groups.*

ABOVE: *This attractive park has both boating and swimming facilities.*

LEFT: *Auditoriums in public housing projects form an important part of the recreational program.*

With Wilmington's present population of 61,000, an average of 3,000 people enter into these group activities in any one day. Ten neighborhood groups have been formed with four additional to be organized in the near future.

The Department of Recreation is one of ten municipal government departments under the general supervision of City Manager A. C. Nichols.

Up to

Sixty Percent More Refuse Per Load

By JOHN S. FLOCKHART
Engineer-in-Charge
Bureau of Street Cleaning

Newark, N. J., uses a Gar Wood body on a refuse-collection truck and increases weight per cubic foot approximately 60 percent—while reducing labor and truck operating costs

ON today's list of critical municipal services is the collection and disposal of a community's solid wastes. In addition to overall and long-range plans for the improvement of a collection system, wartime demands for manpower and the matter of procuring and maintaining sufficient automotive hauling equipment make it imperative for the sanitation official to investigate every possible method and tool which might assist him in carrying on. Materials and supplies, such as gas and rubber, must be conserved to the limit. Even though these be war times, a service-conscious public demands efficient, regular and sanitary waste removal. A high level of operation must be maintained and the attainment of such constitutes a challenge to those charged with this responsibility.

LEFT: *The loading height would be 8 inches lower on a modern chassis than on Newark's older model.*

RIGHT: *The compressor tail-gate is raised, showing the condensed refuse ready to be dumped.*

The city of Newark, N. J., operates its own municipal system of refuse collection and disposal and maintains an average of 60 trucks in this work, collecting an average daily volume of 3,500 cubic yards of refuse materials of all types. The truck chassis are either of the Mack or Autocar make and are equipped with open or enclosed body. In 1941 it was anticipated that some of the equipment might be replaced by more modern and sanitary equipment but wartime conditions made this impossible.

In order to secure sufficient equipment to handle heavy winter peaks, hired trucks must be used to supplement city equipment. These generally have not proved satisfactory because of their small capacity, high loading level and unsuitability to the work of refuse collection; hence, when in 1942 an old 7½-ton, 1927 chain-drive Mack AC model chassis upon which a 5-cubic yard body had been mounted and used by the Bureau of Streets became available, the Bureau of Street Cleaning took over the truck for use in refuse collections. Because of its relatively small capacity, its operation was costly.

In the summer of 1940 tests had been conducted in Newark with a 12-cubic yard Gar Wood Load-Packer which was mounted on a Mack chassis. It was demonstrated during the trial period that two men were sufficient to load the Packer and that the operation of the machine was regular, steady, efficient and fairly noiseless. Consolidation of the material by means of the tail-gate ram greatly increased the pay load in comparison with the open body type of loading, and resulted in a saving both of labor and equipment operation. The comparative unit weight showed that approximately 60 percent more material was being taken at a time.

Accordingly, early in 1943, after a conference with Director Ralph A. Villani of the Department of Parks and Public Property, it was decided to purchase a 15-cubic yard Load-Packer and mount it on the old chassis. Application was made to WPB for such a purchase, based on the requirements of the sanitation service. Because of the necessity for conserving gas, rubber, and manpower, and since the haul to the disposal site was fairly long, economical operation demanded a large size body on the available heavy chassis. A body which the manufacturer had in stock was released and mounted on the city chassis.

Several minor difficulties were encountered in mounting due to the fact that the body had already been built by the manufacturer and it was necessary to fit it onto the only chassis which the city had available, the 1942 model Mack.

The 96-inch wheel base of the chassis was short for the standard 102-inch body, necessitating the lengthening of the frame by welding on an 18-inch end section to accommodate the body. The relocation of the wheel wells in the body was also required. Because of the height of the chassis

frame, the conventional wood sill-board was omitted and a ¼-inch steel plate substituted to keep the loading line as low as possible.

The operation of the hydraulic system was accomplished by installing a power take-off from the transmission to the pump, the pump supplying oil to the cylinders used for raising the body and operating the rams for the tailgate.

Since dumping is done on low-lying meadowland where soft ground is encountered, the rear steps were raised 6 inches to provide clearance in the disposal area. It was also found that because of the "no-battery-type" generating system and the slow speed motor, the action of the tailgate ram and the loading operation was somewhat slow. This was speeded up by the installation of a battery type generator which resulted in the proper operation of the solenoid accelerating system. After all alterations had been completed the equipment was placed in service September 1943.

The first assignment of the Load-Packer was to the market and produce store section, very close to the center of the city. The large volume of retail business in fruits and vegetables requires that material be collected twice a day to prevent unsanitary and unsightly conditions. The nature of this material, comprising crates, boxes, barrels, wrappings and other wastes resulting from the handling of fruits and the sale of food, was bulky, and when loaded on an open truck required considerable hauling capacity for the weight removed.

The available hauling capacity of a refuse collection fleet is limited. The adoption of any device or system which will permit of more compact and dense loading will increase the number of loosely packed pick-ups (refuse receptacles) and decrease the number of truck loads with a consequent decrease for the cost of such hauling.

Test weighings were made of the material in this area when collected in an open type truck and when placed in the Load-Packer. From these tests it was found that at that particular season of the year, the average weight per cubic yard (with little ash content) in the open truck was 417 pounds and in the Load-Packer it was 548 pounds, indicating that 31 percent more rubbish could be hauled per unit of hauling capacity. In commercial districts this percentage is higher due to the great amount of paper and cartons which can be compressed. In addition to the conservation of gas and rubber from the decreased number of truck loads, the low loading line and the enclosed body enabled the work to be done without using any men in the body of the truck to spread or stack materials, and the laborers were subject to less fatigue.

During the autumn season and the period of heavy leaf fall and removal, the Load-Packer was called into service in the residential areas to haul away the leaves which had been dumped from the motor pick-up sweepers. The compressible nature of the leaves made it possible for large quantities to be carried in the body and much hauling time and equipment were conserved. No records of the weights were made but the laborers prefer this method of loading leaves and dirt to other types.

More recently, the Load-Packer has been used in one of the 17 refuse collection districts of the city. It is the local practice in Newark to collect all materials in a mixed condition—garbage being drained and wrapped by the householder and then placed in a receptacle with all other trash and rubbish. During the winter season the inclusion of ashes in the rubbish causes a fluctuation in the unit weight of the material; a substantially heavier and denser load being produced. When the hopper load was rammed into the body from the hopper, no difficulty was experienced in compacting and compressing it—there being sufficient power developed to handle a load even when clear ashes were collected.

Typical weights of material per cubic yard when collected in the open type equipment and the Load-Packer in the above district are 400 pounds per cubic yard and 620 pounds per cubic yard, respectively; the Load-Packer holding a 55 percent increase over the open type of body. The district from which the material originated is a fairly densely populated one, settled around the various diversified manufacturing plants. Consequently, the material represents a cross-section of that which might be collected in any city—containing household wastes, garbage, some ashes, together with store, business and commercial material in a mixed condition. As such, it represented ideally compressible matter, with a goodly percentage of voids.

To date, the maintenance cost of the body has been negligible and it requires very little mechanical attention. Newark, in common with other cities, believes in preventive maintenance service, and under a plan scheduled by Messrs. James W. Alden and Walter J. Walters of the Bureau of Motors, places each piece of motor equipment in the shop for one day each month for inspection and such minor repairs as are necessary. Thus, it is possible to prevent major repairs by careful attention to those details which might cause trouble.

With the compacting tail gate raised, the body is tilted and the truck moves forward to empty the refuse.

Drought in the S. E. States and Its Effect on Municipalities

By W. B. LANGBEIN
Water Resources Board
United States Geological Survey
Washington, D. C.

This report, which was prepared on July 22 especially for* The American City, *is based on last minute information supplied by field offices of the United States Geological Survey. Mr. W. E. Wrather, Director of the United States Geological Survey, reports further subnormal conditions existing in the Gila River Basin in Arizona where water is used for irrigation and in the Columbia River Basin where water is used for power generation.

WATER-SUPPLY conditions in the Southeast have improved materially during the past two weeks except in Kentucky and eastern Virginia where stream flow and shallow ground-water levels continue critically low. The most notable improvement occurred in eastern North Carolina where Neuse River rose from a record low for July of 84 cfs on July 7 to 2,850 cfs on July 16.

Prior to the recent rains, stream flow in eastern Virginia and North and South Carolina, Kentucky, Tennessee, and southern Florida was generally less than 50 percent of normal and receding steadily; the flow of Neuse River in eastern North Carolina was only 35 percent of normal, its lowest May record. Discharge measurements early in July showed the flow of many streams in this area had receded to as low as 0.05 cfs per square mile or lower, especially in Kentucky, eastern Virginia, and in coastal South Carolina.

The drought came in the midst of the growing season that in much of the area followed a late wet spring, hence *it has been of more adverse effect on agriculture than on water supplies which are supported by ground reserves.* Storage reserves are ample and no power shortages have occurred, except locally as described below. The recent rains have given welcome relief

Virginia

Water supplies continued dangerously subnormal in southeastern Virginia during the first two weeks of July. Many shallow wells are reported dry. There was no flow in Blackwater River at the diversion dam near Burdette where it had been hoped that a supply for the Norfolk-Portsmouth area could be obtained. However, the pipe line extends to Nottaway River near Sebrell where a flow of 128 cfs was measured on July 14.

The flow of Blackwater River at Zuni averaged only 3 cfs during the first 19 days of July. July average a year ago was 254 cfs.

The flow of James River during the first 17 days of July averaged 1,300 cfs at Scottsville, about 60 percent of the normal for July so that stream-flow conditions appear better in relation to normal in the central and western part of the State. Flow conditions are nearly normal in the upper Roanoke Basin and in southwestern Virginia.

North Carolina

The summer drought situation has been relieved materially by intense scattered showers reaching over much of the Piedmont and coastal areas but largely missing the mountains. Heavy precipitation began on the afternoon of the 13th and 24-hour Weather Bureau figures for the 14th gave two places as having over four inches of rainfall and numerous others as much as three. Drowning and Bear Creeks in particular were in excessive flood stage, Neuse and Cape Fear Rivers reached flood stage, and moderate rises were common on numerous other streams in the eastern part of the State. Neuse River rose from a record low for July of 84 cfs on July 7 (0.074 cfs per square mile) to 2,850 cfs on July 16.

Ground-water reserves and reservoir storage, however, are ample so water supplies for power generation and industrial and domestic uses were not as depleted as they would have been had the drought been several months later. Agriculture has suffered extensively and unseasonable forest fires have been numerous and caused heavy losses.

South Carolina

Owing to heavy scattered precipitation during the period July 1-18, drought conditions which prevailed during the latter part of June and early part of July have been relieved in the eastern and northern parts of the State. In the northwestern part precipitation has been widely scattered but generally below normal and copious general precipitation is needed. Surface-water supplies for industrial and municipal use in the state have benefited by the heavy scattered precipitation and reservoirs in general have been able to increase their storage. No reports have been received of a ground-water shortage affecting industrial and municipal supplies.

Some of the streams in the eastern part of the state reached notably low but not record-breaking unit discharges during the early part of July, such as Juniper Creek near Cheraw, 0.182 cfs per square mile; Lynches River near Effingham, 0.21 cfs square mile; and Black River at Kingstree, 0.012 cfs per square mile.

Kentucky

If no improvement occurs during July 21-23, the flow of Green River at Munfordville will be the lowest for July in 18 years of record. There have been 12 months during the period of record which were lower than the present, four during the 1930 drought, three during the prolonged low-water period of 1939, and the remainder occurring in September or October when normal flow is about half that for July.

In the limestone area to the east of Louisville many farm wells are going dry. In the area to the south ground-water levels are dropping and farmers have to deepen wells.

Water levels in industrial wells are declining and yields decreasing, mostly as a result of heavy pumping but due partly to deficient recharge. A general demand on city water increased to a point where the city curtailed its use by industries, causing a further load on the industrial wells. Industries are still in full production but a cut in distillery operations is imminent.

(Continued on page 119)

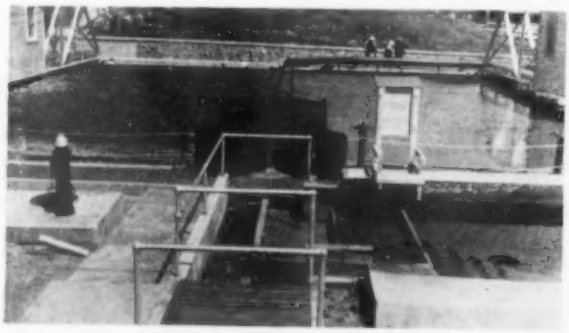
Sioux Falls, S. D., Sets Its Sewage Plant in Order

Some of our finest examples of shrewd and alert engineering occur not where an entirely new project is involved, but where an overloaded, slightly obsolete plant is rehabilitated. Such was the case at Sioux Falls, South Dakota, where the sedimentation tanks, trickling filters, and digestion tanks underwent interesting revisions to meet a heavy sewage overload.

By KENNETH V. HILL
Greeley and Hansen, Engineers
Chicago

THE original sewage treatment plant was constructed in 1927 and consisted of a bar screen; a detritus tank with grit removal device and washer; two square preliminary sedimentation tanks allowing straight flow through the tank and equipped with Dorr sludge collectors having an extension arm to clean the tank corners; a sludge pumping station; four fixed-nozzle trickling filters covering 4.1 acres 8 to 9 feet deep; sludge drying beds; and 3 sludge digestion tanks with fixed covers.

In 1937, the rapid growth of the city and an increase in packing house production made additions to the plant necessary. These comprised aeration tanks of conventional type, final sedimentation tanks, a pumping station to pump the trickling filter effluent to the aeration plant, means for applying chemicals to the sewage, a flocculating tank, and additional sludge drying beds.



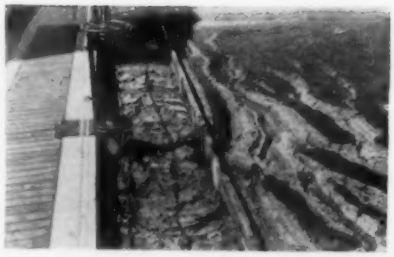
Preliminary sedimentation tanks before modernization

However, this did not seem adequate to care for the load and in 1939 the writer's firm was employed to investigate and report on the plant's operation. A study of the operation indicated the likelihood of improved performance by rehabilitating certain of the units at relatively minor cost.

Primary Sedimentation Tanks

The first units scheduled for readjustment were the primary tanks. Flow entered the original tanks and traveled transversely across them discharging over a weir which extended the full width of the outlet side. Overflow rates were relatively high allowing soap curds and small particles to flow out with the effluent, both of which placed an additional load of suspended matter upon the filters. Also large quantities of grease accumulated in the tanks.

The recommended changes for these units were simple and effective. They included first, the use of a center feed and a peripheral weir thereby reducing the rate of overflow by half and aiding sedimentation. Next they included a circular scum baffle, grease skimmer and grease removal device, and to complete the job, the tank corners were filled in and the extension arms removed from the sludge collecting mechanisms.



This shows the large quantities of grease which formed in the primary settling tanks before they were remodeled.

Prior to the rehabilitation of these units the tanks removed 40 percent of BOD and 60 percent of suspended solids. With the new installation sedimentation efficiency has been improved resulting in removals up to 55 percent of BOD and from 65 to 75 percent of suspended matter.

Trickling Filters

Next on the schedule was an examination of the trickling filters, supplying part of the secondary treatment. The filters contained much fine stone and as a result trapped considerable grease and suspended solids in the small voids. To eliminate this tendency to clog, we recommended removal of the stone from the filter, rescreening, washing, and replacing. This work, performed by contract, resulted in a loss of 28 percent by volume of the original stone. However, improvement of the filter media was not the only consideration. The distribution

BELOW: *Changes in the primary settling tanks are being made. The completed installations include a center feed, a peripheral weir, a scum baffle, and a grease skimmer and removal device. The corners of the tank were filled in to make it round.*

of the liquor over the bed also was not all that was to be desired. During the winter the interval between dosings apparently was so long that the temperature maintained in the filters was insufficient to maintain bacterial life.

To correct these deficiencies we recommended the removal of the dosing tanks and the original fixed nozzle distribution equipment and the installation of rotary distributors in their place. Arrangements were also made for recirculation through the filter, all with a view to securing more uniform distribution and more continuous application to maintain higher temperatures. These changes reduced the volume of the filter from 32.8 acre feet to 18.2 acre feet.

During the 6 months' period from November 1943 through April 1944, the filter performance has been excellent under heavy loadings. Psychoda flies and larvae were present all winter long, indicating maintenance of a temperature in the filter high enough to support such organisms and the filters remained open and clean. BOD reductions varied from 60 to 90 percent of the applied load.

Piping and valves of the original distribution system and the discarded filter stone were salvaged and have been used in other work.

Filter Effluent Pumping Station

Obviously, with the improved efficiency of filter beds, it was necessary to increase the capacity of the filter effluent pumping units correspondingly. These were designed originally to pump the filter effluent to the aeration plant but which with the recirculation of filter effluent, lacked capacity. Correction of this deficiency consisted of reducing the discharge head against which the pumps operated. This was accomplished by changes in the piping inside the pumping station and in the discharge line outside the station.

Sludge Digestion Tanks

Packing house wastes tend to form heavy scum layers in digestion tanks. Sometimes scum layers in such tanks become so heavy that they are lifted by gas pressure from beneath and in rising, lift the tank covers. Study of the Sioux Falls digestion tanks indicated the advantage of replacing the original scum breaker mechanisms in the digestion tanks with improved stirring devices thus reducing the scum and promoting better sludge digestion. Each of the three tanks was accordingly equipped with two Dorr "turbo mixers" and increased heat exchanger capacity.

Flocculators

Revisions to the flocculation tanks also proved particularly beneficial. These tanks, designed to provide additional treatment to the raw packing-house wastes, were originally equipped with paddles for promoting gentle agitation and development of chemical floc. The paddle devices were removed and air diffuser tubes, furnished by the Link Belt Co., were installed in their place to induce a spiral flow in the tank. The waste activated sludge from the aeration process was then returned to the packing house waste in the flocculator in lieu of chemicals. About 50 minutes displacement is provided in this unit.

The process appears to be particularly helpful in removing some of the grease from the packing house waste, grease going down as sludge in the preliminary sedimentation tank instead of coming to the surface as scum.

Removal of Packing House Waste Sludge

The proteins in packing house sewage go into solution very quickly. It was felt that if the sludge contained in the packing house waste could be removed as promptly as possible, some peptization of proteins from the sludge could be avoided. Accordingly, arrangements were made to operate the pre-treatment plant at the packing house so as to remove sludge from the preliminary sedimentation tanks quickly and to pump it directly to the digestion tanks at the city plant. Piping salvaged from the old fixed nozzle distribution system on the trickling filters was used to construct the sludge line from the packing house treatment plant to the city digestion tank. This procedure has improved the performance of the flocculator and the preliminary sedimentation tanks at the city plant.

Gas Engine-Driven Blowers and Generator

Blowers provided in 1935, when the aeration plant was constructed, had water seals. Sioux Falls water is hard and the blower rotors tended to become encrusted with lime deposits which caused the blowers to stick. Some vapor was also carried into the aeration tanks where it would condense, forming mono-carbonates underneath the aeration plates, causing these to clog. These difficulties together with the fact that increased loading required more air than the original blowers could furnish indicated the need to

The new trickling filters with their 197-foot diameter distributors.

BELOW: *The original trickling filter. Much of the piping, filter stone, and many valves were salvaged and reused.*

replace the original blowers. Larger blower units and a generating unit were accordingly installed, all driven by gas engines which operate on gas furnished from the sludge digestion tanks. The total installed horsepower of the gas engines is 755. The installation was handled entirely by the city's own forces.

The improvements made were designed by Greeley and Hansen and were installed under the direction of Bert T. Yeager, Commissioner, R. E. Bragstad, City Engineer, and Leland Bradney, Operating Chemist.

The new generaor and blowers are driven by Worthington sewage gas engines which generate a total of 755 hp.

PHOTOGRAPH BY KROEGER

New Jersey Department of Economic Development

By PAUL G. TOMLINSON

Chief, Bureau of State Publicity, State of New Jersey

IN order to coordinate and anticipate post-war problems, the State of New Jersey has created a new Department of Economic Development. This Department, which came into being July 1, consists of a Commissioner, who administers the work of the Department, and an Economic Council of ten members representing industry, labor, veterans, local government and the public. The Department has three principle subdivisions:

1. The Division of Commerce and Municipal Aid includes among its functions the development and administration of programs looking towards the improvement of business and working conditions, the development of technical services, the "increase of employment opportunities and encouragement of free private enterprise," and the centralization and collection of statistics. It also administers the welfare (general assistance) program in New Jersey.

2. The Division of Veterans' Services includes Bureaus of Claims & Benefits, Veterans' Employment and Loans to Veterans.

3. The Division of Planning and Engineering, which takes over the work of the State Housing Authority and the State Planning Board, is directed to prepare a master plan for the physical development of the state and is required to "keep current, a proposed long term development program of major state improvements." It will pass on plans for public projects by other state departments, and will advise with local authorities and individuals with a view to coordinating all physical development plans relating to an economical and comprehensive development of the state. It will make studies of rural land utilization, and investigate urban living and housing conditions with special reference to the problem of clearing and reconstructing slum areas. Within the Division is a "Public Housing & Development Authority" with power to acquire real and personal property; to operate, lease, sell or exchange property; to construct or contract for the construction of projects and community facilities; to borrow money; to receive grants from federal, state or any other sources. The law provides specifically, moreover, that all real property and improvements owned by the Authority shall be taxed in the municipality where such property is situated. The law also provides for the setting up and maintenance of a "Public Work Reserve" consisting of proposed projects of state, county and municipality and ad hoc authorities for public works and services. The Authority has a fund at its disposal to aid local political subdivisions in defraying the cost of plans and specifications for post-war projects, but this aid commits neither the State nor the political subdivision to any contribution or appropriation for construction costs, at any time.

The Department of Economic Development has absorbed a number of former New Jersey State Departments in the interests of economy and the coordination of government activities, and has very broad pawers. Mayor Charles R. Erdman, Jr., of Princeton is Commissioner of the new Department, and the principal office is at 150 East State St., Trenton, N. J.

Politics and Australia's Civil Service

IS it not significant that every major reform in public personnel administration in Australia has been introduced by Act of Parliament, and not by executive action as in England? If so, was this due to the insistence of a "more democratic" Parliament on retaining the right to supervise the conditions of its own administration? Whatever the reason, the result seems plain. The keynote of Australian Parliamentary debates—most of them dull enough—on Public Service Bills has been, not the public interest, nor service efficiency and economy, but "the excellence of our public servants"—"the necessity of preserving their rights." Always someone has been ready to defend the vested interest of a group—the returned soldiers, temporary employees, persons recruited under old systems who cannot any longer "be expected" to sit for examinations—and so wide loopholes in legislation have been left for the admission or retention of mediocre personnel. No doubt the resolute clinging to the sweets of patronage has been partly responsible for this. The desire is evident in members of Parliament to have a reputation for "sticking up for" the public servants, or the returned soldiers, or some other group. Such an atmosphere is unfavorable to considerations of efficiency and economy of administration.

—From *Public Service Recruitment in Australia*, Robert S. Parker, Melbourne University Press, Melbourne, 1942, pp. 274-275.

War Housing Project Developed Into Permanent Community

STARTED as a public war housing project on a site that was almost a jungle two years ago, the town of Lake Jackson, Texas, has been developed through FHA insured private funds into a permanent town with its own community and commercial facilities.

At present Lake Jackson is a one-industry town devoted 100 percent to the production of magnesium, a metal one-third lighter than aluminum which is being used increasingly in the manufacture of airplanes and other materials of the highest priority rating. From an article entitled "A New-type Town for a New Industry," published in *Insured Mortgage Portfolio* for the first quarter of 1944, the following facts are gleaned:

To start at the beginning, in 1941 the Office of Production Management (later the War Production Board) decided that magnesium should be produced in this country in very much greater volume than had ever before been attempted. The Dow Chemical Co. was producing this metal with the concentrated brine process at a plant in its home town of Midland, Mich., getting its raw material from the Michigan brine wells. But it had developed a low-cost method of producing magnesium and its byproducts from sea water and had designed a sea-water magnesium plant.

Under agreement with OPM such a plant was built by the Dow Chemical Co. at Freeport on the Texas Gulf Coast, and in 1942 a second plant was added about 4 miles up the Brazos River. To help in solving the acute housing problem that resulted the company bought the old Lake Jackson plantation of some 5,000 acres, as a site for the new community.

The Federal Public Housing Authority understook the development of the first section of Lake Jackson and the construction of 100 duplex homes providing 200 permanent family dwelling units, at a cost of $878,000, the funds to be provided under the Lanham Act. The company provided the business center, the school, recreation grounds, and other facilities.

This project was such a success, and the demand for homes in the Lake Jackson area by permanent employees of the company was so great, that tentative plans were made for the development of adjoining sections with private capital. The proposition was taken to the Houston office of the Federal Housing Administration and was approved. The community plan was worked out in cooperation with the FHA land planning consultants, to make one harmonious neighborhood out of both the public and private sections of Lake Jackson.

The Dow Chemical Co., owner of the land, and the Dow Magnesium Corporation agreed to sponsor the project and organized the Lake Jackson Co. to provide and operate the utilities and to manage the town until its incorporation as a Texas municipality.

Landscaping and Architecture

Both in landscaping and architecture Lake Jackson is distinctive. The atmosphere of the old Jackson Plantation has been preserved. Buildings are dwarfed by the giant trees, most of which are festooned with Spanish moss or flowering vines. Each front yard has flowering shrubs and nearly every family has a garden. The buildings themselves—business center, school, and individual homes—were designed specifically for a mild climate where the sun sometimes waxes hot but where the wind rarely blows cold. For instance, along one side of the school is a covered walk where the pupils can stay in the shade; windows on the other side are protected by movable louvers which can be adjusted like venetian blinds to keep out the sun and let in the breezes. The present school building with 240-pupil capacity is not large enough. A second building is waiting only for priority approval. Recreation grounds cover about 6 acres.

The two privately financed sections of Lake Jackson have concrete streets, curbs, gutters, and sidewalks. The average lot size is 70 by 145 feet. The one-story frame houses are set back 25 to 40 feet from the front property line and 10 to 15 feet from the side property lines. They have wide protecting eaves, generous windows, attached garages, and screened porches.

A Well-Planned Community

Houses in all sections have gas, electricity, and telephone service available. All are connected with the water and sewer systems. Connections with utilities are all in the rear easements, leaving the streets clear of poles and wires. All the houses front on streets on which there is no heavy traffic. The streets flow into avenues on which no houses face, giving easy access to the business center, the school, recreation grounds, the through highways to the plants, and to Freeport, Galveston, and Houston. The business center is screened from the residential districts by buffer parks. There is an adequately equipped fire department. The

(*Continued on page 119*)

The plot plan above shows Lake Jackson as it is today, bordering on through roads, near a modern airport, and with room for expansion. The public housing project is in Section A, the private housing projects in Section B-B. The operating agency, the Lake Jackson Company, built the shopping center, school and recreation grounds, and installed the utilities.

War on Winter

New York City's Snow Fighting Is an Important Municipal Function

By H. L. BOGART

IN 1888 New York City had its Great Blizzard. Starting on March 11 as a light rain, in 24 hours it had blanketed the city with 16.5 inches of snow. The storm lasted over three days, depositing a layer of more than 20 inches, causing untold damage and paralyzing the city.

Because the fall was not continuous, the record for the heaviest fall in a single storm has been awarded to the blitz of February 17-18, 1893, when 17.8 inches smothered the metropolis. In recent years an average fall has been 3 inches per storm.

However, despite these crippling storms, the city did not attempt to organize its own snow-fighting forces until 1916 when a heavy fall of 49.7 inches was measured. From a rather modest start these forces have constantly expanded and improved until today they work from 52 strategically located garages and maintenance yards dotting the five boroughs. They utilize a fleet of 60 rock-salt spreaders and 78 brooms, rumbling over carefully planned routes to protect principal arteries, intersections, bridges, and express highways. They muster out more than 1,400 trucks equipped with plows and 601 tractor-driver cross-walk plows.

William F. Carey, Commissioner of the Department of Sanitation, has been ministering to the organization since 1936. Under his direction, the best in machinery has been acquired through his experience as a highly successful contractor. His enthusiasm for outfitting the department with the best specialized equipment has proved most fortunate. The program was completed in 1939. Since then no equipment has been purchased. Fourteen snow plows are included among equipment commandeered by the military.

Carey's good right arm, Deputy Commissioner William Powell, literally knows snow fighting from the ground up. Starting as a driver in the department 37 years ago, Powell has been in the front lines often enough to know what the men are up against.

Salt by the Ton

On the main thoroughfares rock salt treatment, first adopted in 1936 and used in increasing amounts since, is the department's most valuable weapon because it is now able to obtain a bare driving surface for the motorist very shortly after a storm, not possible with the older method of using abrasives. At the outset of a storm, spreaders distribute about a quarter pound per square yard of pavement area. Many thousands of tons of rock salt may be put down in the course of a single storm to prevent snow bonding to the pavement and to forestall ice formation, so that plows and brooms when they make their rounds can clean everything from the street surface.

Rock salt treatment dissipates from 25 to 50 percent of the snow so that it does not have to be loaded into trucks and hauled away. This has also effected a great saving in costs. The city is high in its praise of rock salt because it has actually meant the ability to do a more complete job of snow and ice removal resulting in bare dry pavements at no extra costs; actually substantial savings have been realized since the introduction of salt.

Five hundred carloads of "Grade CC" rock salt from the largest producing mine in the western hemisphere at Retsof, N. Y., were needed to supply the city last year. It moves by rail to Jersey City and is lightered across to the Brooklyn warehouse.

Down the Drain

Flushing is splendidly efficient in getting rid of snow—with a big if—if the temperature is right. A poor guess can coat the streets with inches of ice and cause incalculable havoc. The department takes no chances.

When the cold spells will not allow the use of water to fight snow, the snow loaders, a formidable 190 of them, go into battle. Like miniature twisters they can suck up snow piles and project a powdery stream 100 feet out of the way of traffic. More practically, they are used to fill trucks which cart the snow to piers by special arrangement with the Department of Docks and war, navy, and shipping administrators who control port areas.

New York's sewer system is far larger than the famed underground of Paris and the snow fighters who have maps locating main trunks push thousands of tons into the system at points where the pipe lines are large enough to drive a truck through. Care must be taken to see that old bedsteads, lumber, and wornout baby buggies are not hidden in the accumulation which crosswalk plows fitted with side pieces nudge into these excavations.

Among the most troublesome zones in the city are the streets canopied with elevated railways. Parked cars, trolleys, and the spacing of pillars make it necessary to stop operations constantly so that traffic can pass. Brooklyn still boasts more miles of trolley tracks than any comparable area in the country. These surface lines and wooden block pavement of the Brooklyn Bridge try the patience of the supervisor as much as the steep grades in the hilly reaches north of Harlem.

The University of Winter

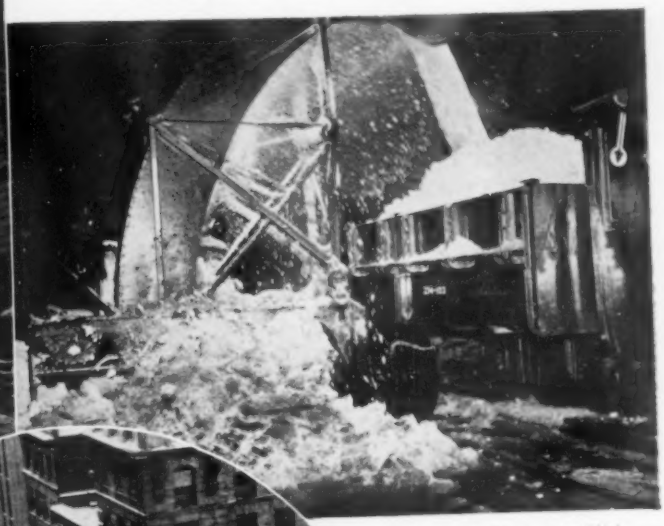
Training the warriors who do actual battle with winter's blasts is done in the department school at 22nd Street and the East River. Because an inexperienced operator can do more damage to automotive equipment than repair crews can mend in a week, approximately 1,000 men receive 8 hours of instruction during the autumn in handling the city's specialized machines. Some of them cost as much as $11,000. Skill is required to operate a rotary snowplow which can drill through frozen windrows with a sturdy auger, and route the broken-up chunks through a fan, up a chute, and into the waiting trucks. Men who have received the course of instruction organize classes in their own districts. When they have imparted their knowledge to the district personnel, the original scholars are organized in a permanent Snow Battalion through the winter months. Whenever an emergency threatens to breach the city's defenses this squad, operating as a unit, is rushed to any point in the city.

When a storm strikes, experience has shown that the entire mechanized equipment must keep battling day and night if the fall exceeds four inches. Rock salt spreaders, snowplows, brooms and crosswalk plows maneuver around with the persistence of ants until all snow is plowed to the curb.

Clearing New York's Winter Streets

BELOW: *This Sno-Go Loader has a voracious appetite.*

ABOVE: *Taking advantage of a Sunday morning lull in traffic, a New York patrol cleans up the last bits of a storm.*



LEFT: *Seen at Fifth Avenue and 40th Street during one of New York's blizzards. Rock salt was used on Fifth Avenue but not on 40th Street.*

BELOW: *Manhattan's downtown mercantile section would be a bedlam of jammed trucks if a heavy snow fell on week days and was not cleaned at once.*

BELOW: *Because rock salt has been used to prevent ice formation and snow bonding to the street surface the snow plows are able to clean right down to the bare pavement.*

This is especially true at the city airports with arrivals and departures around the clock. Ice forming on the runways is just as dangerous to planes landing at high speeds as it is to pilots aloft when it sheathes wings with its deadly weight. Rock salt spread on the ground accomplishes what mechanical devices do aloft. From the first warning flurry of snow no ice is permitted to form. Plows and brooms patrol the length of the runways and crosswalk plows bustle around cleaning up after the rotary loaders like tugs nursing an ocean greyhound. The loaders bite into snow piles, suck up the particles, and spew forth a flying cloud a distance of 75 to 100 feet out of harm's way.

Unless General Winter unleashes an attack more concentrated than last year's offensive, even with a manpower shortage, the Department of Sanitation is in a position to exchange blow for blow. Crosswalks may be ankle-deep in slush but at least the decimated legions can prevent the crippling of supply lines stemming from all over the country through the Port of New York to the fighting fronts, where another type of soldier is hammering the Axis back. The Department is ever alert to win its battle.

New Water Works Plant

To Provide for Increased War-Time Population at Petal, Miss.

WHEN giant Camp Shelby was dropped into the midst of this unincorporated community of a little over 1,000 inhabitants, the problem of furnishing utilities for the greatly increased population was a pressing one.

To proceed with the solution it was necessary that the directive force for the project emanate from the county since the town was unincorporated. The Forrest County Board of Supervisors, seeing the need for water and sewage facilities, readily sponsored a petition for both a water works and sewage system, with the result that a fund of $114,000 was made available by the Federal Works Agency for the construction of a water works system.

When the contract was let in 1942, however, critical materials could not be obtained and the contract had to be canceled. Nevertheless, after a lapse of more than a year and a still greater increase in population, priorities for the materials were obtained and another contract was let in January 1944 to the J. B. McCrary Co. of Atlanta, Ga., for the sum of $48,271.15. This contract covered the construction of a reservoir and distribution system. Another contract was let to the Layne-Central Co. of Memphis, Tenn., for the well and pump equipment for $5,487.50. The construction proceeded and was completed without delay.

The specifications at first called for an elevated steel tower reservoir but in order to conserve critical materials the plans were changed to call for an underground reservoir. This completed reservoir is 9 feet deep by 40 feet across and is built of unreinforced concrete covered by a cypress roof. Since the reservoir, having a capacity of 100,000 gallons, is located on a hill 100 feet above the town to provide gravity pressure to the distribution system, water from a 450-foot well must be pumped into it by a Layne-Central pump having a 26 hp. motor.

The well, which is capable of furnishing 200 gpm, is more than adequate to supply the needs of the community. The main which carries water to the reservoir is tapped along the way to furnish homes in that area with water.

In constructing the distribution system the work was performed almost entirely by mechanical equipment. A Cleveland Baby Digger was used to do the ditching. When the pipe was laid by hand the ditches were backfilled with a Baker Back-Filler.

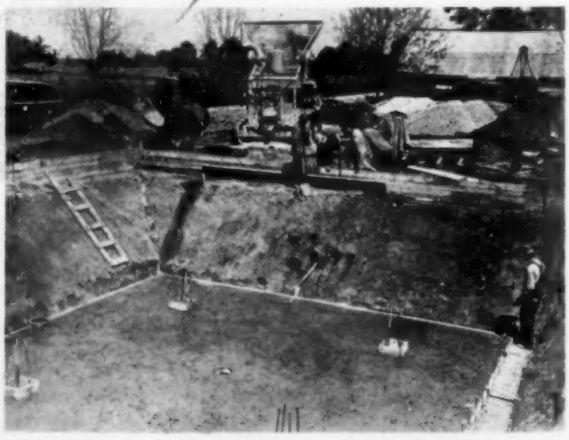
The completed distribution system is composed of 6½ miles of cast iron pipe. There is 6,020 feet of 8-inch pipe and 2,410 feet of 6-inch pipe, both having bell and spigot joints. The rest of the pipe, 15,630 feet of 2-inch size, has threaded joints. The service lines running to about 300 dwellings are of ¾-inch steel pipe. The cast iron pipe used in the distribution system was trucked from the plant of the McWane Cast Iron Pipe Co. to the place on the construction job where it was needed. An important adjunct to the distribution system was the installation of 15 fire hydrants. Thus, adequate fire protection was secured as well as a sufficient domestic water supply.

Typical of the times a number of substitute materials were used in place of those which are not available. These were a lead substitute, a sulphur base compound (Hydrotite) used for making the joint connections in the 6- and 8-inch pipe, and a fibrex binder ring used in lieu of jute or yarn.

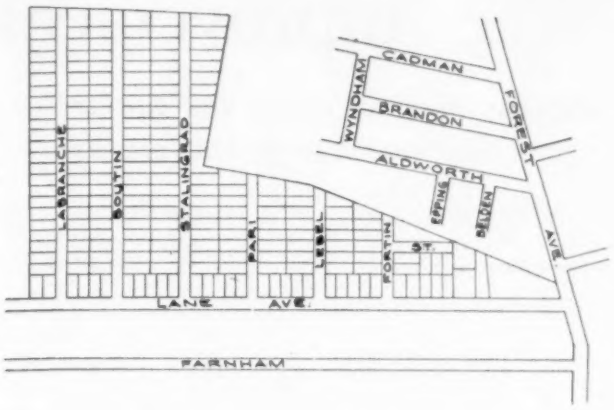
In spite of the fact that Petal, Miss., has more than doubled its population since the giant war camp was built in 1940, it is now able to furnish a more than ample supply of water to its inhabitants and is looking forward to the time when its plans for adequate sewage facilities will be realized.

The members of the Forrest County Board of Supervisors have placed operation of the water works in the hands of a Water Commission composed of three men: W. H. Clearman, J. O. Runnels, and Patrick Rogers. Because the FWA completely financed the project, all the revenues from the operation less operating expenses are remitted to this agency by the Water Commission.

The consulting engineer on the Petal project was R. T. Myers of Hattiesburg, Miss., with Pierson and Whitman of Raleigh, N. C., as associates. C. I. McLeod, associate construction engineer for FWA, worked under E. D. Sloan who is senior engineer for FWA in Mississippi. W. L. Malcolm was superintendent of construction for the J. B. McCrary Co.



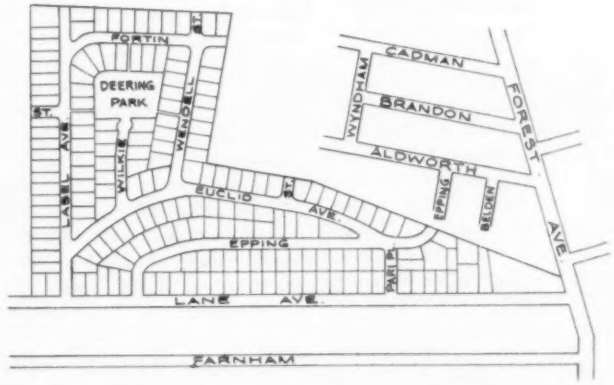
The underground reservoir in process of construction



ABOVE:- PLAN AS FIRST SUBMITTED TO THE PLANNING BOARD SHOWING OUTMODED RECTANGULAR STREET PATTERN.

PINE TREE TERRACE
PORTLAND. MAINE

BELOW:- PLAN AS REVISED BY THE DEVELOPER AND RECOMMENDED BY THE PLANNING BOARD FOR APPROVAL, AND INCORPORATING THE CURVILINEAR STREET PATTERN AND OPEN SPACE PROVISION IN ACCORDANCE WITH MODERN DESIGN.



Subdivisions as They Have Been and Might Be

Examples from Portland and Toronto

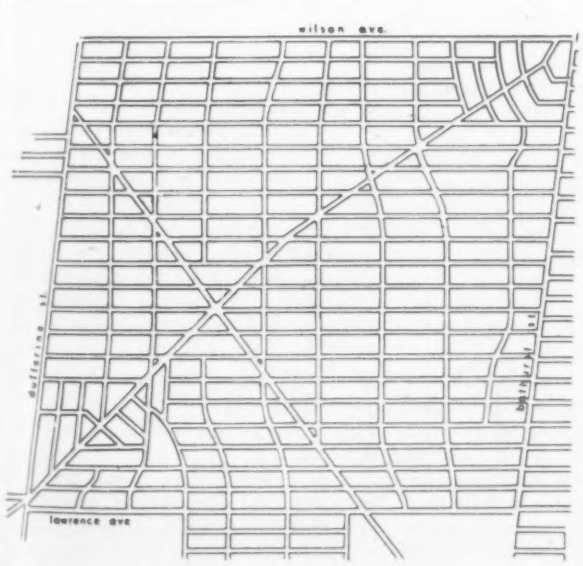
THESE maps from recent reports of the City Planning Boards of Portland, Maine, (see p. 111), and Toronto, Ont., are reproduced as examples of the increasing attention which planning agencies and municipal officials are giving to the design and control of real estate subdivisions.

The Portland plans and captions are self-explanatory.

"Toronto and Its Master Plan" is the theme of an elaborately illustrated article and critique in the June 1944 issue of the *Journal* of the Royal Architectural Institute of Canada, on the recent work of the Toronto City Planning Board. In the section on "Development and Redevelopment" the accompanying map appears. In the words of the Planning Board, the map "contrasts existing methods of subdivision for residential building with the possibilities of a planned neighborhood on the same area." It graphically shows the policy of the Board towards more open planning, the reasons for the necessity of which it states as the need of every neighborhood for open space in order to make it self-perpetuating.

BELOW AND AT LOWER RIGHT—

Subdivision under existing conditions in Toronto, compared with type of subdivision for new neighborhoods suggested by the City Planning Board.



Financing Post-War Improvements

Municipalities should prepare now to carry the major financial responsibilities for local post-war public works

By FRANK W. HORNE*

THOUSANDS of municipalities throughout the United States are giving serious thought to post-war public works improvement and rehabilitation programs, designed to serve the dual purpose of catching up with their normal outlays for plant improvements, sidetracked during the war because of material shortages, and of aiding in the re-employment of returning servicemen. Many of the local governments and their planners have been encouraged, by gentle but nonetheless unmistakable murmurings of possible financial support from Washington, to raise the estimates of potential post-war improvements, without giving careful consideration to certain economic and financial factors which may be expected to prevail in time to come.

Re-incarnation of PWA?

In short, rightly or wrongly, the heads of many towns and cities have been impressed with the idea that nothing less than a re-incarnation of a vast PWA—much more extensive than heretofore—can be expected to develop in the post-war era, and that this agency will dole out billions of dollars to local governments in helping to further their programs. But it is debatable to what extent the public coffers can be thrown open in the period following the war to furnish still more huge amounts of money for municipal public-works projects. There is a limit to the amount of federal debt which can be created if this nation is to maintain its financial and economic equilibrium. It should be considered that the ability of the government to tax its people is at its highest potential at the present moment when the national income is at its peak. In the post-war period, with this national income in recession, the ability and willingness of the people to shoulder new outlays will offer no mean obstacle for a gigantic PWA.

In planning post-war public works projects municipalities should, therefore, depend mainly on their own resources. The entire question can resolve itself into one of local handling. How much of a program is required? Where will the money come from? Will the financial outlay involved be too much of a burden for the taxpayers to shoulder?

Local officials will do well to heed the many financial and political straws in the wind when designing their programs. Present national income will perhaps provide an opportunity to explore possible ways and means of handling post-war public works expenditures. The ability of a people to pay taxes has been demonstrated to be at its highest level when the national income is likewise at its highest level. This applies both to national and local revenues. Therefore, it appears sound to counsel local governments to gauge their contemplated expenditures after the war as accurately as possible and to commence the appropriation of funds for this account *now*, and not wait until countless numbers of transient residents have departed, or until local payrolls deteriorate. This counsel applies to all municipalities, large and small, but particularly to those localities which are known to have increased their populations because of being situated in a war boom area.

Many persons who are familiar with the economics of municipal finance sense a possible danger in connection with the issuance of bonds to supply the money for post-war projects. Although most municipalities are physically and legally able to sell bonds for this purpose, there is a matter of marketability entering the picture which should be taken into consideration at present, and not allowed to be overlooked until it is too late.

Post-War Bond Market

First off, we do not know what the condition of the bond market will be after the war, and whether or not municipalities will find themselves *able* to sell their bonds at satisfactory interest rates and prices. In gauging possible market conditions, the direct debt of the United States Government must be given due importance as a contributing factor, because municipal bond prices are closely related to the price levels of government securities. Any important recession in government bond prices will adversely affect the market for municipal bonds. Many communities can afford to pay high rates of interest on their indebtedness, but yet again there are others which could not afford to service a debt bearing an excessive interest rate. It is conceivable that government bonds could sell at sizable discounts after the war because the supply will very likely exceed the demand when the pressure of war financing has been removed and patriotic appeals for funds have been eliminated. The matter of redemptions must also be taken into account, as a great many owners of war savings bonds who may consider it their duty to lend their government money during the war will likewise be anxious to have their money refunded when the danger to national security has been removed.

Secondly, it is very conceivable that if thousands of towns and cities throughout the nation were to attempt to market their bonds at one time, or over a short period of time, the demand for municipal securities would be more than absorbed, bonds would go begging for purchasers, and a final touch would be added to an already uncertain and wavering government bond market.

Reserves for Post-War Public Works

In the third place, we must of necessity consider what has already been outlined in regard to the establishment of a post-war sinking fund now, when transient populations are at high levels and taxes are easier to collect because of a high national income. The loss, by a town or city, of a sizable percentage of its population after the war will mean either a decrease in tax revenues or, as an alternative, a higher tax rate to provide the same amount of revenue as heretofore. There is no reason why transient residents should not pay their share of municipal services used during their local residency. Their payment for these services is made through the usual channels of taxation.

A moderate increase in the tax rate during boom times would provide a sinking fund which can be set aside for post-war public works improve-

* The author, now Lieutenant in the United States Naval Reserve, is well known as an authority on municipal finance. Before entering the service he was President of F. W. Horne and Company of Hartford, Conn., and other New England cities, consultants on municipal finance.

ments, and which, in the case of some municipalities, if continued in effect until the goal is reached, would make it unnecessary to issue bonds for this purpose after the war, when financial, economic and civic conditions may be unfavorable. In cities where a moderate increase in the local tax rate would provide insufficient amounts for the sinking fund, local governments could augment their taxation, with annual issues of bonds to be marketed *now*, when interest rates are known to be at favorable levels from a local standpoint. The objective is the same, but the method perhaps more subtle and indirect.

To sum it all up, then, post-war planning is not only important but necessary if economic and financial order is to prevail. This planning should have at its inception no thought of dependency on the federal government for financial aid, and it must be based on complete understanding of all aspects of the situation rather than a hurried, surface-scratching leap at unknown quantities. It must be devised at the outset to obtain the greatest amount of value for money expended, and the ability of the local taxpayers to shoulder increased taxes today as compared with what they will be able and willing to pay in years to come must, of necessity, form the pattern for the whole.

Artificial Hills for Level Towns

By EDWARD A. EICHSTEDT
Landscape Architect
Detroit, Mich.

IN the level towns and cities of this country there are millions of children with sleds and no place to use them within easy reach of their homes. In the same communities contractors will often pay a premium for a place to dump earth spoil and alley ashes.

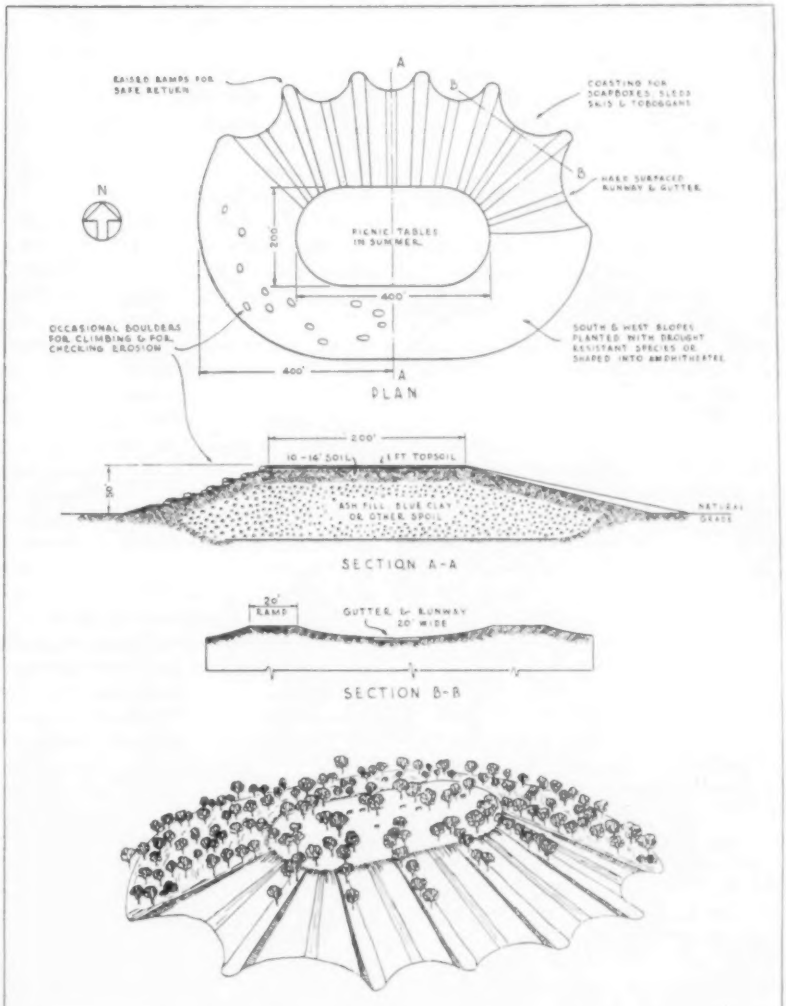
To provide a mutual solution for these two needs, artificial hills have sometimes been attempted but, due to poor design, they have often proved costly to maintain, dangerous on account of broken glass, or have formed an ugly excrescence on the landscape, which was useful for only about thirty days during the year.

Herewith is a design which attempts to overcome many of these objections. The hill is 50 feet high, contains about 380,000 cubic yards, and occupies 12 acres. Abount 12 acres more should be allowed for the momentum run at the base. Having a large flat top, the hill blends easily into the landscape. The flat top allows absorption of rainfall, thus providing the hill with the necessary reserve of capillary water to support trees, shrubs, and ground cover, which serve further to blend the whole mass into the landscape.

North and South Slopes

By orienting its runways to the north and east, they remain frozen the maximum length of time. In fact, the coasting season can be stretched out to last as long as freezing weather prevails if the runways are sprayed. A level stretch of ice at the base can be provided by shallowly dishing that area and allowing it to flood.

The south slope should be steeper and set with occasional boulders or chunks of mass concrete such as are often obtained from wrecking operations. Artificial rock ledges could be



DESIGN for ARTIFICIAL HILL
by E. A EICHSTEDT LANDSCAPE ARCHITECT
THIS HILL CAN BE USED THE WHOLE YEAR 'ROUND

poured in place, as they were at the Detroit Zoo. They should be worked into the grade in such a way as to provide benches or pockets for the water to settle. This checks erosion and helps further to build up a reserve of capillary water. Children like nothing better than climbing around on such a rugged slope, especially if the opportunities are scarce as they are in Detroit. As an alternative use, the south slope could be shaped into an amphitheater.

The flat top is large enough for picnic tables and shelters. People would go there to catch the breeze and to enjoy the view. Soapbox coasting is made possible by surfaced runways with inverted crowns, thereby doubling as gutters to take off the surface water without forming gulleys.

This plan also provides a safe way for children to return to the top of the hill. They walk up the raised ramps which are free from sled traffic and which, incidentally, are less steep than the runways. On natural hills the "climbers" are often knocked down and injured by the "coasters."

Materials That Might Be Used

The hills may be built entirely of earth if, for example, depressed expressways are being constructed which are yielding a surplus of spoil; or, if earth spoil is not available, the core could be built up with alley ashes and covered with a 10- to 14-foot blanket of subsoil with one foot of topsoil on the surface. The required quantity of subsoil and topsoil would first be scraped out and stockpiled nearby, where it would be available for covering after the core had been placed. The double handling of soil involved in such a procedure could be accomplished with large wheel scrapers at a cost of 6 cents to 20 cents per cubic yard for each handling. However, in the city proper, it is fairly easy to get earth spoil. Contractors have paid 50 cents per cubic yard for the privilege of dumping clean earth on Bell Isle. After all, disposal of ashes is only a secondary consideration in this connection. Artificial hills could by no means take care of a city's total yield. Detroit's volume mounts to 2½ million cubic yards per year at present, and even with the proposed salvage system after the war it will still be around 1½ million cubic yards.

Those who maintain that coasting hills are an extravagant use of land will be interested to know that our toboggan slides at Detroit's River Rouge Park, occupying 5 acres, are utilized by as many persons (70,000) in 30 days as is our most popular golf course the whole year round, with its 110 acres.

It would be somewhat naive to imply that the finished hill as pictured here would emerge as the by-product of a spoil bank project. Considerable work is involved in grading, surfacing, planting, etc.; but as a unique recreational facility in great demand in a flat country, should it not be worth some expenditure as an end in itself?

In Peking, China, I found a hill similar to this, but larger. That one is 200 feet high and has five pavilions on its summits. The earth blanket consists of silt from the nearby marshes. Covered with trees and other vegetation it has stood intact for 700 years. It was built in the thirteenth century by the conqueror, Kublai Khan, as a part of his pleasure parks. It is one of the featured sights of Peking today, where it is known as "Prospect Hill" or "Coal Hill."

Survey Warns Against Civic Parsimony

"IN 1924 Cincinnati was a sick city. In 1944 it is a strong and healthy city. It has solved the basic problem of a decent, honest, and representative government. It still has unsolved problems of great magnitude. This is no reproach to its city government. It has done its part well. It has done an outstanding job in using the resources available to it.

"What is now needed is a community movement comparable in intensity to that of 1924, but with the further objective of breaking down the habit of civic parsimony which grew strong in days when Cincinnati's rulers were not fit to be trusted with the people's money. Necessity often produces leadership. The crisis on the threshold of which Cincinnati, like the rest of the country, stands today should evoke it. When such leadership is forthcoming, it will find ready to hand, in the city government of Cincinnati, an instrument as effective as has yet been devised for carrying out the will of the people in municipal affairs."

These are the concluding paragraphs of an "Appraisal of the Government of Cincinnati, 1924-1944," prepared for The Stephen H. Wilder Foundation by Thomas H. Reed and Doris D. Reed, representing the Consultant Service of the National Municipal League of New York.

It was in November 1924 that the voters of Cincinnati adopted the charter amendment backed by the City Charter Committee, embodying the city manager plan and a council of nine elected by proportional representation. The city's municipal history during the subsequent 20 years is outlined in the report just published:

"At the first council election, in 1925, the City Charter Committee, running a slate of independent Republicans and Democrats, captured 6 of the 9 seats, the 3 others going to the Republican organization. The Charterite councilmen elected one of their number, Murray Seasongood, mayor, and selected Colonel C. O. Sherrill, then in charge of public buildings and grounds in Washington, D. C., to be manager. His choice was unanimously ratified by the council. Thereafter a committee was appointed, consisting of Robert A. Taft, Robert N. Gorman, and Henry Bentley, to prepare a complete new charter which was adopted in 1926. The Charterites, with the same independent Republican and Democratic backing, continued to have a majority in the council until 1936. In 1930 Russell Wilson replaced Seasongood, and Sherrill was succeeded by C. A. Dykstra. In the fall of 1935 there were elected 4 Charterites, 4 Republicans, and 1 Independent. Russell Wilson was re-elected mayor in 1936, by virtue of an agreement with the Independent member. Colonel Sherrill took over the manager-ship for a second time in 1937 when Dykstra became president of the University of Wisconsin.

"The 1937 election again split the council 4-4-1. The Republicans came to terms with the Independent, and elected James G. Stewart, mayor. The same situation continued in the council elected in 1939. In 1941 and 1943 the result was 5 Republicans and 4 Charterites. Before the election of 1943 Colonel Sherrill resigned, effective December 31, and the Republican members of council, the Charterites not voting, named Wilbur R. Kellogg, manager of the Cincinnati Union Terminal Company, city manager."

The Appraisal by Dr. and Mrs. Reed summarizes the principal local criticisms of the city government and the major accomplishments of the last 20 years. "The question in 1924," says the report, was " 'Can Cincinnati have a decent government?' The question today is 'Can Cincinnati overcome the legal obstacles and popular inertia which have up to this time prevented her from pursuing some of the higher goals of civic ambition?' "

Fire Protection

On the asset side, the Reed report gives special praise to Cincinnati's fire protection activities, summarizing as follows the elements which make up

the city's present fire defenses: (1) an excellent water system; (2) a fire force well equipped and which will be sufficiently manned when the men in the armed forces return; (3) a fire alarm system housed along with police radio in a fireproof building in Eden Park and operated by the efficient division of communications; (4) a strict building code enforced by the division of building inspection, and workable ordinances regulating the storage of explosives and inflammables, the accumulation of rubbish, and other fire hazards; (5) an extensive fire-prevention bureau which in 1943 made 182,753 inspections, and on whose orders 14,096 fire hazards were remedied; (6) frequent drills and schools for firemen covering all aspects of their duty.

Recreation Facilities

High praise is also given to the improvement in park and playground facilities during the last twenty years. Says the report:

"By 1924 drastic cuts in appropriations had reduced the parks to a shabby and unkempt condition. Not only has this been remedied, but park acreage has been increased from 2,724 acres in 1924 to 4,286 today. There was little then in the way of an active recreation program, while today the recreation commission operates 88 play areas totalling approximately 1,000 acres.

"Cincinnati has over 0.9 of an acre of park and recreation area per 100 population, nearly up to the ideal of the National Recreation Association of one acre per 100 of population, and far in advance of most other large American cities. The park facilities are generally well distributed. Except for the occasional addition of a playfield or playground in a congested area, Cincinnati has no urgent need for additional park areas. The only large additional park development now seriously considered is in the river-front area at present subject to flood, a matter calling for the most careful and scientific study of land use in the city."

Lacks Which Must Be Remedied

Contrasted with the foregoing and other municipal activities in which Cincinnati ranks high, the Reed Appraisal emphasizes some of the requisites of urban living for which the city has not yet made adequate provision:

"Among the physical facilities which any modern city of half a million population needs are: (1) adequate highway approaches; (2) convenient and commodious rail terminals; (3) a well located airport safely accessible to the largest planes; (4) modern mass transportation; (5) ample off-street parking in downtown areas; (6) adequate main traffic arteries; (7) decent sewage disposal; (8) a pure and palatable water supply sufficient for itself and its environs; (9) well placed and extensive park and recreation sites; (10) redevelopment of blighted areas and housing for the people. Cincinnati needs in addition (11) flood control.

"Of these requisites of urban living, Cincinnati has done very well in only (2) and (9). An adequate approach has been provided from only one direction, over Columbia Avenue Parkway, and more needs to be done to improve its accessibility. Hills block approach to Lunken airport. Loading platforms and lumbering streetcars interrupt street traffic. Provision of free off-street parking is in its infancy. The pattern of arterial streets is obviously incomplete. Sewage disposal is in the blueprint stage. City water is unpalatable at times, and the bottlenecks in the tunnel and pumping station stand in the way of supplying the environs. Redevelopment of blighted areas is only a subject of conversation, and its related problem of housing has had no more than a beginning, despite the exceptional work of the Cincinnati Housing Authority. The Mill Creek barrier dam will prevent the worst damage from flood, but there still remains the problem of the river-front lands now subject to flood.

"These physical needs are so numerous, indeed, as to make it necessary to pick and choose among them. A committee of four, headed by the director of public works, which was detailed by Colonel Sherrill to assemble items for consideration in preliminary studies for a future program of public works, reported in August 1943 a list of projects totalling $146,000,000. It is obvious that no such money can be found even with the aid of a federal Santa Claus. Cincinnati, according to the Cincinnati Bureau of Governmental Research, could issue this year $14,850,000 in bonds inside its debt limit ($6,274,000 of this has been authorized but not issued), and about $3,500,000 a year more for the next ten years.

"With such prospects it is encouraging that under pressure of a strong citizens' planning committee the council has been induced to appropriate $100,000 to the city planning commisison for planning in the broadest sense. Only thus can intelligent selection of the improvements be made, and selection is necessary not only to keep capital outlays within the debt limit but to preserve a sane relation between expenditures and resources."

The Future

In the opinion of Dr. and Mrs. Reed, "The imminence of a post-war crisis appears, at last, to have awakened some of Cincinnati's strongest citizens to the necessity of action. The citizens' committee referred to is now organizing more formally to give support and guidance to the post-war planning movement. It will be well financed and will employ an expert personnel. There will thus be supplied, it is to be hoped, that leadership without which Cincinnati cannot overcome the obstacles—legal, financial, and psychological—which hamper the city's physical development."

Municipal Home Rule Extended

CITIES in New York now may put charter revisions on municipal election ballots by petition under a new law setting up extensive home rule city charter revision machinery, the American Municipal Association reports.

Under the extended use of city home rule provided by the legislature an amendment may be as extensive as desired and will not be rejected for submission on the ground that it constitutes a new charter.

Also the new law requires that any city charter amendment submitted by petition must set forth new matter either in italics or by underlining and must reproduce old provisions to be changed either in brackets or with lines running through it. This will make it easier for voters to see exactly what changes are proposed, the Association said.

When the power to amend charters originally was given to cities in 1937 the intention was to provide machinery for covering any kind of amendment, but the courts held that an amendment extensive enough to be considered a new charter could not be presented by petition. This limitation has now been removed.

With the signing of this bill New York cities now have the following powers of local legislation, all secured within the last few years:

1. Power to pass ordinances and local laws on a wide range of subjects as long as they do not violate state laws.

2. Power by local law to set aside acts of the legislature—as long as such acts do not apply to all cities alike—on matters within the scope of cities as interpreted by the courts.

3. Power to control special legislation by the state within the field of property, affairs and government of cities.

4. Power to amend a city charter or adopt a new charter by city council action.

5. Power to set up a city charter commission by vote of the people, initiated either by the city council or by petition.

6. Power to amend a city charter by petition and popular vote. Two petitions are required, the first to bring the amendment before the city council, the second to force it on the ballot if the council does not act favorably within two months after the first petition. It is this last power which the new bill extends.

How Much Home Rule?

The question is: how without impairing the power of the national government to achieve all national purposes promptly and effectively, can the essential public services be rendered on a national scale, without undue waste, and in such a way as to preserve the advantages of state and local self-government?

WILLIAM ANDERSON
(From *State Government* for February 1944)

County Government Marches On

at Syracuse, N. Y., Conference of National Association of County Officials

NEARLY every municipal official knows a lot about the county in which he lives. He knows the officials, their titles, departments and functions. What does he know about adjacent counties and those a thousand miles away and how they are handling the problems which both cities and counties have to face?

The second war conference of the National Association of County Officials held at the Syracuse Hotel July 24-27, unfolded an impressive program of interests. Not much was told of the activities of any one county, but the close relationship of all of them to their states was emphasized. Their desire for greater influence in federal appropriations and legislation was revealed in a proposal to establish an office in Washington, D. C. This project was the highlight of the meeting.

The Association was started in the west, sparked by the Utah counties which sent 26 of the 200 delegates at Syracuse. Governor Herbert B. Maw of Utah pointed out the opportunity and the need for local officials to prevent centralization of government at the expense of local government. This was the first national conference east of the Mississippi River. The 1945 meeting will be in Cincinnati.

An impression one might gather at the meeting is that perhaps the time has arrived for an analysis of county work, and a modern definition of the function of counties. If this association would do the job it would add to its public prestige and make its activities and Washington office more effective.

For many counties are very old. They originated in times very different from the present. Some large cities feel that county and city governments should be merged, with one set of officials and lower taxes.

What are the functions of counties? Judge G. Claiborne Blanton of Selma, Alabama, named those functions which he believes should continue to be federal: public welfare, social security, public health, education, farm benefits, labor, and farm-to-market roads. Whether this leaves the counties much more than a mingling in the tax assessments and collections, the fact remains that the precise function and economic boundaries of the county are obscure.

One function of counties not always envisaged shone like a light in an address by Frank Moore, Comptroller of the State of New York. It is the function of resisting the encroachment of federal and state governments. In this respect, the counties can serve as a buffer between the municipalities and the remoter governments. To serve in this manner the counties must maintain their own position, regain abdications they have made, know what they should be and attain that status. "This Association," said Mr. Moore, "should lead toward the restoration of true county powers and the maintenance of county identity."

PHOTOGRAPH COURTESY SYRACUSE HERALD-JOURNAL

These three speakers at the opening session of the convention of the National Association of County Officials at Hotel Syracuse, Syracuse, N. Y., are Mayor Thomas E. Kennedy of Syracuse; Truman H. Preston, President of the Association, and Judge G. Claiborne Blanton of Selma, Ala.

Mr. Moore also traced the history of the 62 counties of New York State. Such a history of the counties of every state would provide the basis for a study of what's wrong with the counties.

In 1643 New York Colony established the county as a new government agency and expense. There were ten of them. New York and Albany were the only cities. In 1801 the town government was provided, and each town was directed to choose a freeholder to supervise the expenditures of the county. That is how the title "Supervisor" originated in New York State.

After the War of 1812, an era of post-war planning raged, the improvements being canals, turnpikes, and railroads. By 1842 the state debt was twenty times the annual revenues, and default was prevented by a heavy state property tax.

In 1856 the first peoples' convention for constitutional revision was held to combat centralized government. It was ordained that "the state legislature may confer on boards of supervisors such further powers of legislation and administration as it may from time to time prescribe." But no such conferring of powers resulted.

In 1867 another convention was held for the purpose of delegating such powers to the counties. But it was the period of bewilderment after the Civil War, and the people rejected the proceedings.

In 1892 all the state laws bearing on counties were brought together in one County Law which has not been revised in these 52 years. A State commission is now studying that statute with an eye to its modernization.

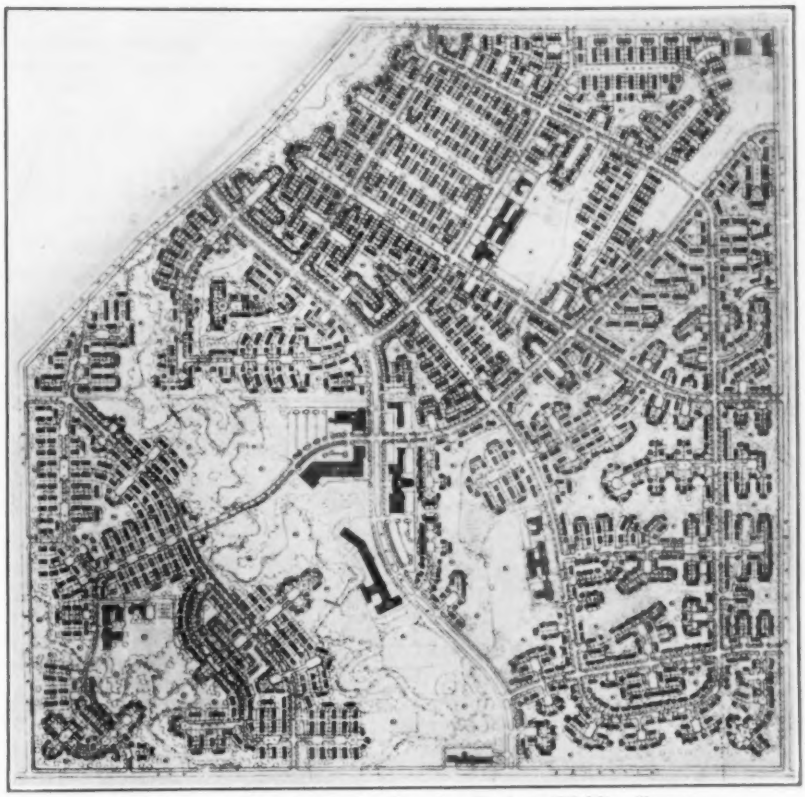
There are in New York State 62 counties, 932 towns, 62 cities, 542 villages and enough school, fire and improvement districts to add up to 10,500 units of government.

Mr. Moore asked: "What is the role of the county? It is a municipal corporation that has not attained to the stature of a true municipality. It is an administrative subdivision of the state. Enlarging its legislative powers would result in solving local problems."

Streets, Utilities, and Community Facilities in a Large War Housing Project

"Planeview," Wichita, Kansas, Has 4,382 Dwelling Units

SERVING the aircraft workers in the Boeing plant, Wichita, Kansas, the 4,382-unit "Planeview" project, here shown, is now housing approximately 20,000 persons.* Through the courtesy of Earl O. Mills and John Noyes, associated architects-engineers, of St. Louis, Mo., THE AMERICAN CITY presents the following data for this project:



Site plan of "Planeview" War Housing Project, Wichita, Kansas

Site Improvements

Topography: Most of the Planeview site had natural grades ranging from 3 to 6 percent, with some areas quite flat and others having as much as 10 percent grades. The existence of a considerable area unsuitable for housing units and the need for reserving large areas for schools, parks, and other public purposes, made necessary the reclamation of much of the low land, principally along the creeks and other natural drainage channels, to accommodate the required number of housing units. All building areas were reduced in grade to a maximum of 6 percent and the necessary adjustments over the whole area resulted in considerable grading.

Street System: Cul-de-sacs, 22 lineal miles; main roads, 34 feet wide; minor roads and cul-de-sacs generally 26 feet wide, with some serving parking areas 20 feet wide; 100 percent on-site parking areas adjoining roads; construction, aggregate binder base with asphaltic top. In general, the road scheme recognizes the city's plans and was also designed to discourage through traffic in area, but north and south and east and west movements, though somewhat indirect, are adequately provided for. The principal business and service center is located at the intersection of the two main thoroughfares through the project, Roosevelt Drive and Ross Parkway.

Sidewalks: Total of 117 lineal miles; concrete construction throughout, both sides main roads and one side minor roads, 4 feet wide; house walks in front and back of all dwellings varying in width from 2 to 3½ feet; walks of greater width are provided in business center.

Utilities

Sanitary Sewers: Total of 40 lineal miles; VCP mains. The construction of a large industrial sewer through the Planeview project by PWA connecting with the Wichita sewage disposal plant made a separate disposal plant unnecessary.

Water Supply: Total of 53 lineal miles; CI mains and GI services. Water is available at site, but construction of a reservoir was necessary for storage purposes.

Gas: Total of 47 lineal miles; steel pipe. For cooking and hot water only; heating by coal and refrigeration by ice.

Electric: All buildings and streets electrically lighted.

Storm Water Drainage: The site plan was laid out to minimize the cost of storm water system by retaining natural drainage channels and fitting the buildings to contours so far as possible.

Water Storage Reservoir: Planeview has a concrete reservoir with 1,000,000-gallon capacity.

A group of prefabricated row houses, "Planeview," Wichita, Kansas

* Wichita has two other war housing projects—"Hilltop Manor," 1,118 units, and Beechwood, 500 units. Architects and engineers associated with Messrs. Mills and Noyes in these Wichita projects were Lorentz Schmidt & Associates, and Overend & Boucher, Architects of Wichita; F. E. Devlin and Don C. Moehring, Engineers of Wichita. The Commercial Center was by Loebl & Schlossman, Chicago; and Reservoirs by Black and Veatch, Kansas City, Mo.

Community Facilities

Schools: Planeview will have 3 Elementary and 1 Junior-Senior High School. Elementary schools will vary in size with 9, 16, and 24 class rooms, and all will have kindergarten, clinic, play areas, etc. The Junior-Senior High School includes sewing, cooking and typing rooms, laboratory, library-study hall, consultation and lecture room, clinic, administration office, assembly-recreation rooms, large play field, etc.

Business and Services: Store buildings are being developed at Hilltop Manor and Beechwood, but the more important "Business and Service Center" is located at Roosevelt Drive and Ross Parkway in the Planeview project. Four buildings containing various units are provided at this center for the following uses: On South East Corner, Central Administrative Building, FPHA; on South West Corner, bowling alley, theater, post office, drug store, and six offices for doctors, dentists and the like, all with usual facilities and accommodations; North West Corner, cafeteria and kitchen, 2 large food stores, variety store, and 10 smaller shops for such uses as men's clothing, millinery, jewelry, barber and beauty shops, shoe repair, cigars, news, candy, etc.; North East Corner, two large department stores and large automobile service station. Ample off-street parking areas are also provided in the above central business area.

The variety and department stores are intended for different types of merchandise such as distributed by Woolworth, J. C. Penney, and others. There will be 16 bowling alleys; the theater has seating capacity of 1,000 with provision for sound pictures; the cafeteria will seat about 400; the food stores are designed for super markets, such as Kroger; and the drug store, which will be operated by Walgreen, is for one of their largest size installations.

Parks and Playgrounds

One of the principal features of the Planeview development is the large open space bordering Gypsum Creek which affords opportunity for an extensive playfield adjoining the Junior-Senior High School on Ross Parkway, as well as numerous other park and playground areas along its entire length through the project. Moreover, Ross Parkway south of the Creek was laid out to serve as a possible future link in the Wichita Metropolitan Parkway System which proposes a parkway in this general location. The site plan provides various areas for baseball, softball, football, tennis and other similar and appropriate recreational facilities. Numerous play areas for small children are conveniently distributed throughout the entire project.

Municipal Interracial Councils

THIRTY-ONE cities now have municipal interracial committees to deal with problems of improving interracial relations on the local level. In addition, unofficial citizens' interracial committees, which often have the approval and cooperation of city officials, have been set up in more than 50 other cities, the International City Managers' Association reports.

Many of the official local committees are in the 12 states with official statewide interracial committees—California, Connecticut, Illinois, Indiana, Massachusetts, Minnesota, New Jersey, New York, West Virginia, South Carolina, Pennsylvania and Texas.

The interracial councils in Detroit, Chicago, and Los Angeles are financed by city funds. Other committees receive free office space and clerical help from the city and depend upon cooperation of interested agencies for the rest of their support.

Practical improvement in basic conditions to bring about equal opportunity for all people regardless of race, creed, or color is the function of Chicago's committee on race relations. With a budget of $25,000 appropriated by the city council, the committee works to uncover sources of racial tensions and suggests programs to relieve and remove causes of tension.

The interracial federation of Milwaukee county, a joint city-county project, has adopted a program calling for action similar to that taken in Chicago, the Association said.

The Los Angeles committee for home front unity works to coordinate efforts of all organizations in the city interested in problems of discrimination and serves as an advisory council to the mayor. The interracial committee of Detroit includes five citizen members, three of whom are Negroes, and six municipal department heads. Set up in January by the mayor with a $15,000 appropriation, its first task is to solve the problem of housing for 40,000 Negroes reported inadequately housed.

Committees in Rockford, Ill., and St. Paul stress education as the basis for interracial understanding. In Dayton the committee named subcommittees to study employment practices, educational facilities, public accommodations, housing, education of public opinion, and legislation.

Other official city interracial committees are functioning in Passaic, N. J., Philadelphia, St. Louis, Hartford, Baltimore, Boston, New York City, Bridgeport, Conn., Kansas City, Mo., and Buffalo, N. Y.

A New Lidice

A NEW Lidice, to be built in Czechoslovakia after the war, is being designed at Columbia University under the auspices of the Czechoslovakian government in exile, it is announced by Leopold Arnaud, dean of the Columbia School of Architecture.

The rebuilding of Lidice was authorized by Dr. Joseph J. Kalenda, head of the Department of Public Works of the Czechoslovakian Ministry of Agriculture, now in this country as a delegate to the Czechoslovakian Labor Office Conference being held in Philadelphia. The project will utilize the most modern architectural developments being taught at Columbia where plans for the reconstruction of two Greek cities were recently designed.

The designing of the new town is under the direction of Robert H. Podzemny, Czechoslovakian architect and town planner, a native of Prague, and one of the designers of the Czechoslovakian Building at the New York World's Fair.

The new Lidice will provide an educational example of the most recent trends in American town planning for young Czechoslovakian architects whose progress has been interrupted by five years of war. The work of rebuilding Lidice will employ hundreds of Czechoslovakians after the war and will be financed by the Czechoslovakian government.

The new town will be constructed around a community center comprising movie theatres, municipal buildings, the library, the church, the post office and the shopping center, the architect points out. The streets of the surrounding residential section will follow the natural slope of the terrain instead of forming the rectangular blocks familiar to Americans.

Frequent under-or-over passes will reduce traffic hazards to pedestrians. Apartment dwellings, permitting the maximum amount of light and air, will be grouped around the community center, and private houses of modern construction will form the outer edge of the town. Equal accessibility of all residential points to the center of community activity will characterize the plan. The old Lidice site will be used as a war memorial park. The modern town will be erected close by.

The Human Side of City Hall

Washington's Town Crier—the Bureau of the Census

By PHILLIPS BRADLEY

TUCKED away in the Bureau of the Census, now located outside the District of Columbia, in Suitland, Maryland, is one of the most significant federal services for every City Hall. The Bureau's Governments Division might well be called Washington's Town Crier for state and local government. It has the latest information—and broadcasts it through its various publications—on most of the problems and programs which emerge at the grassroots levels of American public life. There is hardly an aspect or function of government at the state and municipal levels which does not come within its statistical and analytical activity.

The Division is primarily a research unit whose facilities are available for the asking. Its files contain probably the most comprehensive resource in the country for statistical and other data of interest to municipal administrators—on the broadest to the most detailed questions that come up for answer in the day's work. As the range and complexity of the services required of our City Halls, large and small, have expanded, it has become increasingly important to those in command to have comparable data on policies, programs, and practices. It is just this kind of information which the Division develops—and offers to all inquirers.

The Bureau of the Census began about 40 years ago to collect statistical data on various aspects of state and local government. It has since extended this service to many new fields and concentrated this segment of its widespread information activity in the Governments Division (formerly the Division of State and Local Government). The Division's research program has kept pace with the broadening base of state and local administration. It now maintains an extensive and inclusive current docket on scores of items of perennial interest to City Halls from Maine to California.

A Day in the Division

The Division functions without fanfare or publicity. What it has developed in the way of objective and carefully organized information — in its files as well as in its publications—is a significant contribution to more efficient governmental operations.

A visit to the Division, by mail if not in person, will reveal the character and range of its services, and the cooperative attitudes of the men and women who man those services.

The total staff, professional and clerical, numbers just under 70. From the Chief (E. R. Gray) down to the newest P or CAF employee, a single objective animates the office routines and activities: the provision of "total" information to all comers on every subject within the Division's scope.

Into whatever office you walk, you will find a group of busy people at work on one of the Division's projects; there is no boondoggling or ceiling-gazing here. The impression you get is of a staff which knows what it is about and also knows how to get its jobs done with a minimum of overhead or lag. The gears of a dozen projects running at the same time mesh into a broad and thoroughly integrated program.

So wide a range and so large an amount of research, much of it requiring a substantial amount of intricate statistical computation, is probably not turned out by any comparable staff, public or private, in the country today. It would be hard to find a busier office anywhere—although the atmosphere is one of quiet and apparently unhurried effort. Perhaps it is because these researchers have learned to turn on the heat without starting a publicity-directed conflagration. There is necessarily a high ratio of professional and technical personnel in the staff; the Division's program could not be otherwise successfully carried out—or on. The roster includes some of the nation's most experienced and ablest experts in fiscal and other administrative problems of municipal government. The high professional level in the Division goes far to explain the quality of its work; the results of its personnel organization speak for themselves in the reports it issues.

The Division's Program

From its original emphasis on developing sound comparative financial statistics, the Division has expanded its current program to include many

Typical Census Bureau reports of interest to local officials

other aspects of statistical and analytical interest. Its two best-known new series of reports relate to public employment and to state and municipal elections. Quarterly reports in the former series provide an up-to-date record of fluctuations not only in overall public employment but in major functional groupings. The "Elections Calendars," reports on "State Proposals Voted Upon' and "City Proposals Voted Upon," as well as other elections data, are already important additions to our current understanding of the democratic process of government in the 48 states and scores of cities. Special reports in the elections series collect valuable information not otherwise obtainable on a nationwide basis.

The financial statistics of states, counties, and cities are being constantly refined to provide more adequate criteria of operational differentials for the major functional activities of our primary governmental units. Behind the printed pages of the various series there is a vast amount of specific information on the legal, administrative, and functional phases of local governmen throughout the country.

A decennial survey of basic information on the organization and operation of the 155,000 units of local government in the nation is also developed by the Division. All this information is at the disposal of officials in City Halls, county seats, and state capitols; it is a definite part of the Division's program to answer all inquiries to the limits of its resources. There is hardly a question which can be asked in the non-engineering fields on which the Division cannot give—or dig up—the answer.

The nerve-center of the Division's informational work is its rapidly growing Municipal Reference Service. Like any other special library, the Division's Reference Service is intended primarily to insure its clientele rapid and inclusive technical aid. It is significant that this special library views its clientele as including state and local as well as federal officials—and private individuals and groups in addition.

The library includes one of the most complete files of municipal and state reports in the country. It is based on an expanding documentary collection which runs all the way from council proceedings from scores of cities to detailed data on operational procedures "across the board" of City Hall administration. Files on the most important areas of regular and special functions run to an impressive total—in the number of cities covered no less than in the range of current items of administrative interest and action.

Answering Inquiries

One of the library's principal activities, which is increasing rapidly, is the answering of inquiries from outside its own staff, and beyond other federal offices. Inquiries from the latter bulk large—inevitably so as war and non-war agencies alike are developing closer administrative relations with state and local governments. But inquiries from the smallest City Hall, county seat, or state capitol receive the same service as the White House. The bulk of non-Washington inquiries and direct use of the library's facilities is steadily growing; new materials, both documents in the library and special information reports developed by it, run well over 650 a month, not including several hundred periodicals from numerous sources.

The range of information available through the library can be best portrayed by indicating the inquiries answered in a single month. The "spot" of the Municipal Reference Service makes it all the more valuable to busy City Hall officials. The detailed comparative data provided was, in most cases, more complete than would be obtainable through any other agency in the country. Among the topics covered in a typical month were: statutes and ordinances on fire and electrical equipment certification, on tuberculosis and venereal-disease control, on water-works administration in small cities, on township government in Nebraska and on irrigation districts in California, on the organization and power of the New Jersey Local Government Board. Information was also furnished on various subjects including: corrections, school districts, municipal and state officials, debt, local government, teachers' pensions, chain store taxes, homestead tax exemption, conservation, state aid, special assessments, accounting, government employees, hospitals, airports, salaries, financial trends, wealth, and parking meters. Much information on problems of local administration is, incidentally, being requested by the federal war agencies—the War and Navy Departments, WMC, OPA, WPB—which must depend on local administrative cooperation in implementing national war programs.

Here is a national resource, rich in data on a broad range of problems of immediate interest to every City Hall —from ordinance-drafting to operational organization and techniques. The Governments Division is a facility of the first importance to the smallest as well as the largest community seeking to further effective municipal administration. It is fortunate that the people who man Washington's Town Crier on local government are as eager to have their service used as they are effective in organizing it. Here is one federal governmental unit where it is quite literally true that "the sky is the limit" to its willingness—and ability—to supply the information it commands. There is no ceiling here on inquiry or service.

OFFICE OF CITY CLERK
SOUTH MILWAUKEE, WISCONSIN

Mimeographed Sketches Enliven Notices of Committee Meetings

City Clerk H. W. Daehling of South Milwaukee, Wis., reports that that small city of industries, homes, park and parkway" has a very active Committee on Post-War Planning and that engineers have been engaged to prepare plans and specifications for post-war projects. A sketch used by Mr. Daehling to enliven mimeographed notices of committee meetings is here reproduced.

Cincinnati Now a Class 2 City With Lower Fire Insurance

By BARNEY J. HOUSTON
Fire Chief

RECENT fire protection improvements made by the city government of Cincinnati are saving citizens from $300,000 to $500,000 per year in fire insurance premiums. The improvements raised Cincinnati from class 3 to class 2 by eliminating 407 deficiency points used by the National Board of Fire Underwriters in grading the fire protection facilities of cities. They included improvements to the water distribution system, fire-fighting equipment, fire prevention inspection, fire alarm, training and a new method of response.

Mains and Hydrants

On the water system, where mains were small and pressure was too low at hydrants, new mains were installed and hydrants were arranged so that the distance between hydrants was not over 250 feet or one hydrant per 40,000 square feet in the mercantile district wtih an average of 350 feet or one hydrant per 100,000 square feet in the residential districts. This work has not been completed, but orders have been placed and installation will be performed when materials are available. The condition which will be thus corrected is a skeleton which each Cincinnati fire chief has inherited. Districts which were annexed to the city became congested until there was not enough water for fire extinguishing. This is being corrected. It must be remembered that five pumpers use as much water in an hour as 3,200 persons require in 24 hours. The small as well as the large gate valves are inspected annually.

Fire Apparatus

Half of the high valve district engine companies were connected into a double company by having two pumpers, both fully equipped with 2½-inch hose, booster line and water distributing and fire-fighting tools assigned. The one pumper known as the hose tender has a three-way turret nozzle mounted over the booster tank supplied with 1½-, 1¾- and 2-inch nozzles. The Cincinnati fire houses now quarter apparatus in twins. Each pumping engine carries a foam extinguisher, an Indian Fire Pump and filter-type gas mask. Hand fire pumps are used by all companies.

Ten years experience in Cincinnati is that 95 percent of fires are extinguished by a 1-inch line with a ⅜-inch tip.

Cincinnati writes its own apparatus specifications, and even the bronze pump is retained. Present apparatus is Seagrave, Mack and Autocar. Purchases during the last four years comprised three 100-foot and one 85-foot Seagrave aerials and four 85-foot Mack aerials, all mechanically raised; two pumpers per year, with two pumpers and an 85-foot aerial to be installed in October 1944, and the same in 1945. The city that buys on price wastes money in the end.

Fire-prevention inspections have not only been increased in number, but are also organized on the basis of current risk and fire experience. We watch our records; when they show an increase in fires in stores or dwellings or factories, inspections are concentrated on this class of buildings.

Fire Alarm

Fire-alarm circuits are being placed underground as fast as more electric cables can be obtained. We are replacing paper-insulated cable with rubber or equal insulation. Circuits are being removed from all buildings except fire and police stations. City boxes are being taken out of theatres and institutions, so that the fire department box is *outside* the building. Only two of our circuits are equipped with more than twenty boxes, and those two are thus loaded because of war plants. We intend to install additional boxes until a box is visible within 500 feet of every building in the business district and 800 feet in other built-up sections of the city. Boxes are not lighted, but are painted yellow and red.

The Key Point

The key improvement is our new system of response to a fire. On a first alarm, certain companies in the vicinity respond, while the others remain in their houses to respond to other fires. The same system operates in the event of second, third, fourth or fifth alarms. Certain assigned companies respond, while others definitely do not. The entire system has been worked out very carefully in the course of months, and has been tested in practice. Frequently companies pass or jump over other companies which have been ordered to remain in their fire houses.

Fire Insurance Rates

These improvements won a reduction of four percent in fire insurance rates on brick buildings, two percent on frame buildings and one percent on fireproof buildings. Cincinnati, say the International City Managers' Association, is now the twentieth city of more than 100,000 in class 2. Only eight cities between 25,000 and 100,000 population and none below 25,000 are in this class.

Don't Wait on a Fire

By JOHN PLANT
Chief Fire Prevention Engineer,
Chicago Fire Department

WHEN the record of disastrous fires causing thousands of lives to be lost and millions of dollars worth of irreplaceable property to be destroyed is known, one is justified in saying that the problem presented by fire has not been solved by modern man.

This is most surprising, when it is realized that all fires are preventable fires. Not a single fire has ever occurred that could not have been prevented, or at least controlled, before lives were lost or serious damage resulted. Many times, the only thing necessary to prevent a disastrous and costly fire is to know how to call the fire department promptly when the fire starts; not to wait 20 to 25 minutes until the fire has a good start and then, in desperation, call the fire department.

The Congressional investigation of the burning and capsizing of the magnificent ship "Normandie" shows that there was a 15- to 20-minute delay, between the start of the fire and the calling of the fire department. There were 400 Navy officers and men on the ship when the fire started. There were 300 Coast Guard officers and men and 3,000 workmen, yet for more than 15 minutes, no one called the fire depart-

ment. The record states that many other glaring and serious faults were on the ship. These faults caused the fire, and other faults permitted the fire to get out of control. In fact, the record continues, there were so many absurd and ridiculous omissions with reference to fire that, if the results were not so tragic, all the settings for a perfect Hollywood comedy were present. Oh yes, we can out-produce any one of the nations of the world; but don't forget, we can and do destroy by fire more wealth than all the nations of the world combined.

Often, all that is necessary to stop this loss is to exercise common sense. Let me cite one instance of a disastrous fire in an airplane plant in this city.

A fire started on the roof of one of the large buildings. Not one of the many guards at this plant saw the fire. This failure was not their fault. These men were posted too close to the 50-foot-high brick wall of the building to observe the roof. Guards should have been stationed on the roof.

There was an adequate number of fire hydrants around the building but a wire fence, with barbed wire at the top, had been placed around the building and the fire hydrants were outside this barbed wire fence. This caused a serious delay in getting hose lines into the building and up on the roof.

Some eight large fire pumps were on the premises but only one pump was working. The remaining pumps were not turned on. Very little water was available to fight the fire. This disastrous fire loss, just like most fires, resulted from a series of almost child-like errors.

Another large airplane engine manufacturing plant in Chicago suffered a disastrous fire loss because the size of openings and the threads on their water system did not fit the 2½-inch openings on the Chicago fire hose. This concern had been told, verbally and in writing, of this serious defect in their defense against fire, but because of their lack of knowledge of the potential destructiveness of fire, they failed to correct this. A loss of 10 million man-hours and $250,000 was the penalty of neglect, in this instance.

One might go on analyzing all fires, but the result would be the same. The study would always show the cause of fire was some apparently insignificant factor, which could have been corrected with a minimum of expense and effort. So too, the fire could have been discovered while still a small fire; or it could have been controlled before disastrous loss of life or property had occurred, if simple rules had been followed. Did you ever realize that 60 percent of all fires are caused by accumulations of rubbish? How can all these fires be prevented? By not letting rubbish, papers, rags, old furniture, and kindling wood accumulate in attics, closets, on stairs, porches, roofs, in basements and in sheds. Remove and dispose of the rubbish and you will eliminate 60 percent of all fires.

Everyone should prepare a plan of battle which would tell how to prevent fire and what to do in case of fire in home, store, or factory. When the enemy fire strikes, there is not time to plan for action then. Fire gives no quarter, permits no delay, and takes advantage of every hole in your defense.

Failure to have a well laid out plan of battle against fire means that you will act just as did the men aboard the Normandie, when she began to burn from an easily preventable fire. Set up your defenses now!

Presented at the 1943 National Safety Congress in Chicago.

Municipal Purchasing Technique

By F. R. BUECHNER
City Manager
Superior, Wis.

IT IS almost axiomatic that a finance department is as strong as its purchasing division. After all, a city is generally the largest purchaser of materials, equipment and services, including contractual services, within the corporate limits. In fact, one could with some cogency argue that taxes when spent by the municipality circulate and when spent wisely make business in much the same way as "business makes business."

In the absence of a charter provision, the Wisconsin statutes give a municipality great latitude in the adoption of purchasing policy. It is elementary, as 3 McQuillin, Municipal Corporations (2nd edition) section 1288, states: "In the absence of charter or statutory requirements, municipal contracts need not be let under competitive bidding." The statutory requirements in cities are as follows:

"62.15 Public works. *Contracts; How Let:* All public work, the estimated cost of which shall exceed five hundred dollars, shall be let by contract to the lowest responsible bidder; all other public work shall be let as the council may direct. The council may also, by a vote of three-fourths of all the members-elect, provide by ordinance that any class of public work or any part thereof may be done directly by the city without submitting the same for bids."

In cities the statutes apparently do not require competitive bidding on the purchase of equipment, materials and supplies although the practice would be legal and desirable in most instances.

In villages the statute on the subject is as follows:

"61.55 Public works. *Contracts Involving Over Five Hundred Dollars; How Let:* All contracts for the performance of any work or the purchase of any materials, in any such village, exceeding five hundred dollars, shall be let by the village board to the lowest bidder in such manner as they may prescribe." Materials must also be purchased by competitive bidding where the materials exceed in value five hundred dollars.

In Superior (population 36,000) the following policy has been adopted: Formal bids or sealed bids are taken on all major items, that is, items in excess of an estimated value of approximately four hundred dollars. This practice includes legal publication of notice to bidders, preparation of specifications, plans, if any, etc.

Informal bids—that is, the obtaining of quotations—are usually obtained by letter on all other purchases in excess of an estimated value of fifty dollars more or less, up to approximately four hundred dollars. All informal bids are carefully recorded in detail so that they may be scrutinized by the purchasing agent, the management, unsuccessful bidders, or interested taxpayers.

In asking for formal bids, the practice has been to accumulate items in order to save time and expense in advertising for formal sealed bids. This method is practicable in instances where the budget plans for the purchase of seasonal equipment. Formal bids are taken even in cases where only one make of equipment or trade-name material can be used, in order to insure the city of the possibility of a competitive price.

Neither informal nor formal bids are taken on used equipment as, for example, automobiles, for the reason that there are no standards of value to

apply in making the award to the "lowest, best and most responsible bidder." Obviously, many variable factors enter into the purchase of used equipment, such as mileage, type of body, year of model, condition of tires, etc.

In the taking of formal bids on new equipment as, for example, police cruisers, the city reserves the right in its notice to bidders to reject the trade-in credit offered by the dealer on old cars, and to dispose of them on the open market at the highest competitive price offered. Recently, the city disposed of three used police cruisers and purchased three new ones. The best trade-in figure offered the city on the three used cruisers amounted to a total of $900, whereas they were later sold outright to the highest bidder for the total sum of $2,025.

The city always reserves the right to reject any and all bids. As indicated, the principle of awarding city business "to the lowest, best and most responsible bidder" has been in operation. The underlying principle in awarding city business has been that price alone should not control against other standards of value such as quality of materials and equipment, guarantees, past performance of the vendor or manufacturer, financial responsibility of the bidder, availability and character of future service, etc.

The practice of taking cash discounts on purchases during the past two years has effected savings of over one thousand dollars. Obviously, the cash discounts would amount to considerably more in normal times when major equipment and materials are obtainable. The practice of taking cash discounts, aside from the savings and improvement of the city's credit, has resulted in more bidding and better prices from dealers, vendors and manufacturers. City business is now desired and competed for.

The purchasing procedure consists of the following steps:

1. *Preparation and Placement of Purchase Requisitions with the Purchasing Division.* A purchase requisition, prepared in triplicate by the division or department head requiring materials, supplies and equipment, is sent to the proper department or division head for approval. The original is sent to the purchasing division, the duplicate to the accounting division for attachment to the original purchase order, and the triplicate is retained and filed by the department where the purchase requisition originated.

2. *Securing Prices by Obtaining Informal or Formal Bids.* The purchasing division, as heretofore set forth, obtains informal bids or quotations on minor purchases in excess of fifty dollars value, and formal or sealed bids on major purchases, exception on used equipment, in excess of approximately four hundred dollars value. Sealed bids are requested by the publication of legal notices to bidders in the local newspaper and occasionally in trade journals as well.

3. *Placement of Purchase Orders.* After selection of the successful bidder, a purchase order form is prepared which shows the quantities, prices, manner of delivery, specifications, discount, if any, and other pertinent data or information. Seven copies of a purchase order are prepared and sent to the following departments or agents.

a. Original—signed and notarized by vendor then filed with the city clerk.
b. Vendor's Copy—vendor's order, sent with original.
c. Purchasing Division Copy—filed by names of vendors.
d. Accounting Division Copy—serving as a record of purchasing commitments.
e. Departmental Copy — retained by purchasing division.
f. Receiving Copy—returned to department where purchase order originated for delivery checking purposes.
g. Remittance Advice—mailed to vendor with remittance.

4. *Receiving Materials, Supplies and Equipment.* As materials, supplies and equipment are received by the division or department heads, the receiving report is filled out indicating on same the kinds and quantities received. The receiving report is then used for checking the quantities received with the quantities ordered. In case the materials, supplies and equipment apply on a contract for delivery by installment over a period of time, the receiving report is also used as a basis for making an entry on the purchase order form to reduce the quantities to be received on the contract. If the quantities received are the same as those ordered, the receiving report is approved by the department head and forwarded to the accounting division.

5. *Receiving of Invoice and Approval of Payment.* After the receiving report has been properly certified as to delivery of materials, supplies and equipment, or the contractual services have been performed, it is sent to the accounting division where it is compared with the creditor's invoice therefor. All extensions, totals and discounts, if any, are verified by a finance department clerk. Upon approval of the finance department director, the invoice is vouchered for payment and paid before discount dates whenever discounts are allowed. Lists of vouchers and payrolls to be paid are submitted regularly for the city manager's approval.

A central storeroom in a large city vault was opened in the city hall for office and janitor supplies commonly used by the various city departments. Stock from the storerom is issued only upon requisitions authorized by responsible persons, and a perpetual inventory is kept of goods received and goods issued. The operation of this storeroom permits quantity buying at lower prices. The procedure in use for the issuance of store supplies has the advantage of not only keeping expenditures for office and janitor supplies at a minimum, but gives centralized control over the stock. In order to have the full benefit of proper purchasing procedure, the same must be geared to the budgetary and accounting machinery.

In this connection, one of the prerequisites of any effective purchasing procedure is the preparation of an itemized budget, standardized as to terminology or expense classifications, reflecting both anticipated operating and capital outlay costs. Such a budget permits intelligible and more accurate expenditure forecasts, the application of more effective expenditure controls, and better planning of major purchases.

Another fundamental prerequisite to effective purchasing procedure is the dovetailing of a modern accounting system with the budgetary processes. This results, by the use of mechanical bookkeeping machinery, in keeping the purchasing agent informed daily of bank and budget appropriation fund balances before purchase orders are placed and vouchered. Such integration makes for controlled legal spending and paves the way for budget balancing.

A most essential requirement is that all commitments for materials, supplies, equipment, and services, insofar as is practicable, must be made by the finance department. The placing of all orders by the finance department obviously requires the cooperation of each department head, and once understood, it is readily obtained.

In conclusion, may I sum up by simply stating that city business is big business, justifying the most approved purchasing system. The best designed purchasing system, however, is as effective, as I see it, as the attitude on public economy of those in responsible charge of its administration; they must be imbued with the will to have sound public economy.

Machine Accounting in Superior, Wis.

TO the Editor of THE AMERICAN CITY:

In our budgetary accounting system the advantages of machine speed and accuracy are assured by the use of a Burroughs bookkeeping machine.

Entries from sources of original entry such as the daily cash report, vouchers, finance department orders and journal vouchers are posted to

the various ledgers by means of the Burroughs machine. As a byproduct, the machine creates a carbon copy of each posting which serves as a journal. The preparation of two or more related records in one machine operation is an advantageous feature, since it eliminates the necessity of duplicating entries by other means.

The machine is a typewriter and calculating machine combined. These features assures us of neat records and a speedy means of determining the balances of the bugetary accounts. As a result of this calculating feature we are provided not only with a history report of transactions but also a current news report.

Since our appropriation accounts carry multiple balances it can be seen that by employing a typewriter-calculating machine, capable of computing several columns of figures simultaneously, the necessity of preparing summaries, recapitulations and tabulations is eliminated in obtaining the complete status of an appropriation.

In addition to our regular accounting work, this type of machine is a real time saver in preparing payroll checks. The modern payroll calls for various types of payroll deductions which in itself is quite a sizeable task. The machine is such that it will strike a total at any given point on six different columns of figures. For example, in a group of checks it is necessary to know the total base pay per payroll, the total amount of bonuses, total amount of deductions and the total of the face amount of the checks per payroll. The machine provides all of these figures automatically. In addition to doing the calculating, we are provided with the original check, check stub, payroll register, and a record of the individual employee's earnings, all in one operation.

F. R. Buechner
City Manager

Robert Moses Suggests Parking Meters

Hon. F. H. LaGuardia
Mayor of the City of New York
City Hall, New York

Dear Mayor:

Several months ago you asked me to act as chairman of a committee to report to you on New York's parking problem.

This report deals with future construction of streets and offstreet parking facilities, and only incidentally with regulations made and enforced by the Police Department. There is remarkably little criticism of the manner in which the Police Department has functioned in this field, and no doubt Commissioner Valentine has plans for further improvements after the war.

There is one suggestion as to operation, by no means a new one, on which I believe Commissioner Valentine should be asked for an up-to-date report—that is on the desirability of installing parking meters along curbs in some of the more congested sections of the city. Many citizens are opposed to the installation of devices to collect a toll for the privilege of occupying space along the curb. In other cities, however, these parking meters have been undeniably successful in retail shopping areas. They reduce the number of traffic policemen required to regulate parking on the streets. If properly spaced, they result in the more economical use of curbs. They produce substantial revenue. I make this suggestion with some diffidence, and only because we cannot afford to ignore what others, faced with comparable problems, have found to work well. There is at least a strong argument that the motoring resident of the city and the out-of-town visitor, as well as the local merchant who has one of the meters in front of his store, would profit by these devices. The present state law permits any city or village in the state to install parking meters "except a city having a population of one million or more." Therefore, there would have to be an amendment applicable to New York City.

—Robert Moses, Commissioner of Parks, New York City, from his July 10, 1944 report.

5 Trolley Coaches or 120 Automobiles?

FUTURE large cities, if they wish to function efficiently, will give more thought than heretofore to mass transportation facilities. This need, to which The American City has given repeated emphasis and which is being increasingly studied by city planners, was stressed in the April, 1944, issue of the American Society of Planning Officials by its Executive Director, Walter H. Blucher as follows:

"How far can we go in providing street space for every private vehicle which wants travel area and a place to park? Suppose we do provide street space and parking areas for all existing cars and 50 percent more. Have we solved the ultimate problem of moving people conveniently, rapidly and inexpensively?

"Demands for public services are ever on the increase while the local tax base shrivels. The greatest present demand is for more streets, highways, and parking lots. What can a city afford to provide? When do we reach the limits of demands?

"Let us remember some fundamentals. Three street cars can carry as many people as 120 automobiles. The less movement we have between home and work, the more nearly do we approach the ideal community. . . . This is not an argument against more highways or against further appropriations for highway improvements and extensions. . . . It is realized that in many of our smaller and middle-sized communities, highways, private automobiles and parking lots will provide the only satisfactory tools for the movement of people.

"This is, however, an argument against thinking of transportation in terms of only one facility; this is against shortsightedness which overlooks the part that mass transportation might play in solving some urban transportation problems. Transportation planning must take into account *all* means of moving people.

Plant Fire Protection

A CAREFULLY-PLANNED system of fire prevention and fire control is responsible for the good fire record at the East Pittsburgh Works of the Westinghouse Electric & Manufacturing Co., according to A. C. Streamer, Vice-President, who reported that "We had 130 fire calls where no loss was involved and 19 calls involving fire loss during the first 11 months of 1943, with 5,800,000 feet of floor space and more than 175 acres of ground space to be watched."

James A. Stover, Westinghouse plant fire marshal then said: "we know from actual experience that with proper fire protection devices placed in proper places any blaze can be confined to the area where it started. Workmen jump to the telephone at the first warning of fire near their bench and report to the plant fire department. Then they dash back to the scene and frequently have the fire extinguished, with the help of available portable fire-fighting equipment, before we arrive." The shops are protected by automatic sprinkler systems, one 750-gallon-a-minute and one 500-gallon pumping engines, portable hose carts, hand extinguishers, foam extinguishers and generators, foam engines and soda acid engines. The normal crew of 300 trained firemen has been augmented to 450 men since the war started.

Will Cities Come of Air Age?

(*Continued from page 52*)

going in earnest, while in some secondary cities, they may never require separate fields.

Types of Service

The following different kinds of traffic must be recognized in planning:

Scheduled passenger travel—long distance
Scheduled passenger travel—local or feeder lines
Scheduled mail planes
Scheduled cargo traffic
Scheduled helicopter flights
Pleasure or private flights, unscheduled, by smaller planes, gliders, helicopters

The present civilian airfields are a catch-all for all these types of flights; and all kinds of functions criss-cross each other: passenger loading and unloading, baggage, mail, fueling and servicing, maintenance and repairs. Even now this is clumsy, with a relatively small number of landings and take-offs a day, and with cargo flights a rarity in civilian airports. Tomorrow, when there will be landings and take-offs every minute, there will certainly have to be separate airports in a major city for differing types of service, and the design of each airport will have to be more rigorously thought through in space to prevent terminal delay and confusion. The essence of the airplane, its great competitive advantage, is range and speed. Terminal arrangements must be geared accordingly.

Some airports are even now at the limit of their scheduled passenger flight capacity. There will need to be several of these in a main air city. An essential difference between air terminal and railroad terminal lies in the capacity of the individual unit of transportation. A single train can deliver up to 1000 passengers, several thousand tons of freight. A single plane will not for many years go over 150 to 200 passengers, nor over 50 tons of freight. The latest projected passenger planes have a capacity of only 60 and the new Curtiss Commando has only 10-15 tons payload capacity. An airport, even an airport with double runways, soon reaches a saturation capacity beyond which it cannot be properly and safely controlled and directed. Chicago, New York, Los Angeles, New Orleans, Cleveland, perhaps Washington, Miami, Denver, St. Louis, Seattle, and others will need several passenger airports; will need them in fact as soon as civilian air transport can get delivery of new planes or recondition old ones from the army and navy.

In order to avoid interference of air traffic patterns, airports should be some 6 miles apart. This means not only radial strips into town from passenger airports, but high-speed peripheral connections for transfer purposes between airports. In short, prospective air travel urgently requires a system of radial and peripheral express highways which are in any case required and useful—overdue, in fact, in our cities.

In some cases, an additional high-speed road element should be considered if it or its equivalent does not already exist, from main airfields to nearby cities in the region. While there will be feeder or local service connecting them with main-line air travel, it may be difficult to integrate local schedules into main-line schedules with economy and without layover delays which would defeat the essential speed of air travel. Also, in order not to sacrifice the characteristic saving in time which is one main competitive advantage of the plane, there must be a minimum distance between stops. This will in some cases indicate the desirability of high-speed road connections between two nearby cities in the region, from the one selected as a feeder city to the other, or even omitted from the annual register, between two feeder cities to achieve a greater frequency of schedule than would be possible for either city.

We can expect a large volume of private flying. Before the war, non-scheduled flights accounted for twice as many miles flown as scheduled flights. With the many thousands of returning pilots, the volume will increase. Though it would be convenient for passengers to be able to fly their own planes direct to the air terminal, this will be impossible traffic-wise and safety-wise in cities which have a large volume of flying. Many or most air cities will need one or more airfields for the private flyer, with necessary administration and servicing facilities, again with high-speed connections to the air terminals.

Feeder or Local Service

The problem of airfields in the main air-city for scheduled feeder or local airplane service can be handled in two possible ways: to have one field (or several) for all such local service, and to transfer through passengers by shuttle plane or helicopter to main fields for through travel; or to have some of the local planes land at each of the main airports, thus lessening the number of through planes that can be accommodated at the main airports. If the separate-field solution is adopted, the field for these planes can be much smaller than the through-fields. Such a separate terminal could probably handle commuter traffic also. It is not anticipated that there will be any heavy scheduled commuter traffic from existing suburbs, as the time saving will be negligible considering the travel to plane terminal at each end. But commuters may settle at the greater distances from the city made possible by airplane and helicopter service.

Feeder or local airplane service offers the plane an important opportunity to fill an existing transportation gap. Of late years, the railroads have abandoned numerous cities not on their main lines, so that passenger traffic can get there only inconveniently by bus or by train and bus. New Britain, a busy, industrially-important sizable city in Connecticut, offers a striking example of this. Due to the small unit capacity of the plane as compared with the train, plane service can possibly be furnished New Britain on a profitable basis. A somewhat similar situation exists in cities now serviced by trains on infrequent schedules—one or two a day—that are ancient, poorly maintained and that stop at every whitewashed fence, such as industrial Newcastle, some 60 miles out of Pittsburgh. The plane can furnish more expeditious, better, more frequent service—provided, of course, Pittsburgh's airport is made more quickly accessible from Pittsburgh itself. In such cases, the plane may benefit the railroad by permitting it to cut out more of this local passenger service which is, in general, not profitable beyond commuter range. Of course, such feeder service will be patronized only if potential business in the town in question justifies fairly frequent schedules. If schedules are infrequent, the speed advantage of the plane is neutralized and the cheaper train or bus fare will be the governing factor.

Part of, or adjacent to our passenger airports, we shall need to accommodate helicopter taxis and private helicopters, so people can come to the terminal and leave them parked. Helicopter travel direct from home to place of work (as now by car) can be handled by local parking areas—such as should exist now for automobiles but do not yet exist in anything like adequate amount. Public municipal action has in the past been limited to restrictions:—no parking in certain areas, limited time in others. Positive action on this has been private—largely sporadic and temporary, pending subsequent construction on the land involved. Municipal provision of adequate parking areas seems to be called for. Eventually helicopter garages will be needed. Elevators will lower helicopters from the landing roofs in the morning and raise them

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Leading bus companies are typical of the many customers for Reeves Army Twill. Whatever the industry, if uniforms are needed, this top-quality fabric tailors smartly and gives superb service. Over 80 million yards of it have already been used to help equip America's fighting men, and it is proving itself under the toughest climatic and combat conditions of global war. This fabric, Sanforized Shrunk* and color-fast to sun, water and perspiration, will meet *your* post-war uniform needs. When the time comes to order them, choose from a wide range of popular colors — for long-lasting good looks insist on Reeves Army Twill.

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again for the take-off in the evening. Wide-awake business concerns are alive to the imminence of helicopter travel. A well-known department store has made application to engage in this service, and plans to provide parking space on its roof.

Air Cargo Service

The future of air cargo service is full of uncertainty. It is far costlier and will no doubt remain costlier than railroad or truck. Generally, in contrast to the unquestionable business value of the airplane's speed for mail and passengers, well-planned industrial production can schedule its operations just as well by the slower, equally regular means of railroad and truck as they can by airplane, once we have left the war emergencies behind. In the foreseeable future, air cargo will probably not comprise more than special perishable items such as fresh fruit, vegetables, flowers, sea food from other parts of the country or the world; to items that have high value per unit space occupied; to items where timeliness is all-important, such as newspapers, films. In the case of perishable items, the speed of the plane may in many cases save the costs of refrigeration. It can also compete now, or soon, with long-distance railway express. In the more remote future, if air cargo cost decreases, the plane may compete for less-than-carload freight coming from long distances, where railroad costs are high, and beyond economical trucking range. Grover Loening has predicted that within a few years after the war, air cargo planes may account for one-quarter of rail freight and express, though this estimate seems excessively optimistic.

While air cargo alone will probably not justify a separate field, for some time to come, any substantial quantity will seriously interfere with the smooth operation of the large passenger terminals. Air mail may here play a decisive part. It has long been a main source of air line revenue, and continues on the increase. Mail between the largest-air-cities could probably justify separate planes, even if smaller ones at the start; mail to other cities will for maximum speed need to be linked up with passenger schedules, therefore will continue on passenger planes. The exclusively mail planes between larger air cities, and air cargo, together may justify consideration of a separate airport immediately. Such a set-up would simplify and improve functional operations of the passenger airfields, make more of their capacity available to passengers.

The location of air-cargo fields must be studied thoroughly and in detail, with view to their relation to rail freight terminal and possible railroad sidings; for maximum economy may result even in bulky industry, from delivery of most materials by rail, with supplementary delivery by plane—particularly with respect to distribution of space or repair parts from main factories to dealers.

Planning and Land-Acquisition

Possibly no city will want to build a cargo or cargo-mail airfield immediately, as the volume of traffic won't justify the overhead. Any important air-city, however, will be short-sighted indeed that doesn't plan for such a separate field or fields. In fact, the key necessity for any air-hopeful city is to take two steps immediately: first, to make a master plan for air fields and their connecting and radial-to-center high-speed roads and helicopter-ways (including necessary zoning to assure maintenance of 40-to-1 glide angles); second, for the city to acquire the necessary land and rights of way even if actual construction of some of the fields and connections are off in the future. Considering the great land areas needed for good airfield conditions, and considering the explosion of delayed development and home-building to be anticipated after the war, and considering the zoning requirements for glide angle, cost of acquisition of suitable airfield sites will be vastly increased if we wait. Indeed, under those conditions, it may be impossible to work out the best air pattern if we delay, and we shall be in the traditional American dilemma of having to put our essential public facilities in the second-best locations left over by other facilities which could get along just as well elsewhere.

There is an additional reason for taking these steps now. Air lines have a choice within pretty wide limits as between cities. For example, they could choose as among Denver, Cheyenne and Salt Lake City for an intermediate servicing and transfer point, or between Kansas City and St. Louis. Which place they will choose will probably depend in substantial measure on comparison of the service and efficiency they can expect at each. As the air lines are no doubt making post-war plans now, cities have not an instant to lose in making *their* plans, acquiring their sites and presenting them to air lines for consideration.

To summarize, such a master plan must provide sites for these air-terminals: scheduled through passenger flights with attendant helicopter facilities; facilities for feeder planes either in the large airports or as separate installations; cargo or cargo-and-mail facilities; unscheduled private passenger flights; and the necessary high-speed interconnections, and connections to city center. Actual action should consist of acquisition of all airport sites and rights of way that will ultimately be required; height zoning of areas around these sites to provide the proper glide angle; construction of those fields that will be needed within a year or two after the war. Such a program provides initial economy. It has also the necessary flexibility and expansibility to accommodate the ultimate traffic requirements satisfactorily. Due to the breathing space provided by the war, we shall for once be able, if we choose, to plan ahead and provide adequately for this vital new development.

(Part II of this article will be published in the September issue.)

Civic Celebrations for New Citizens

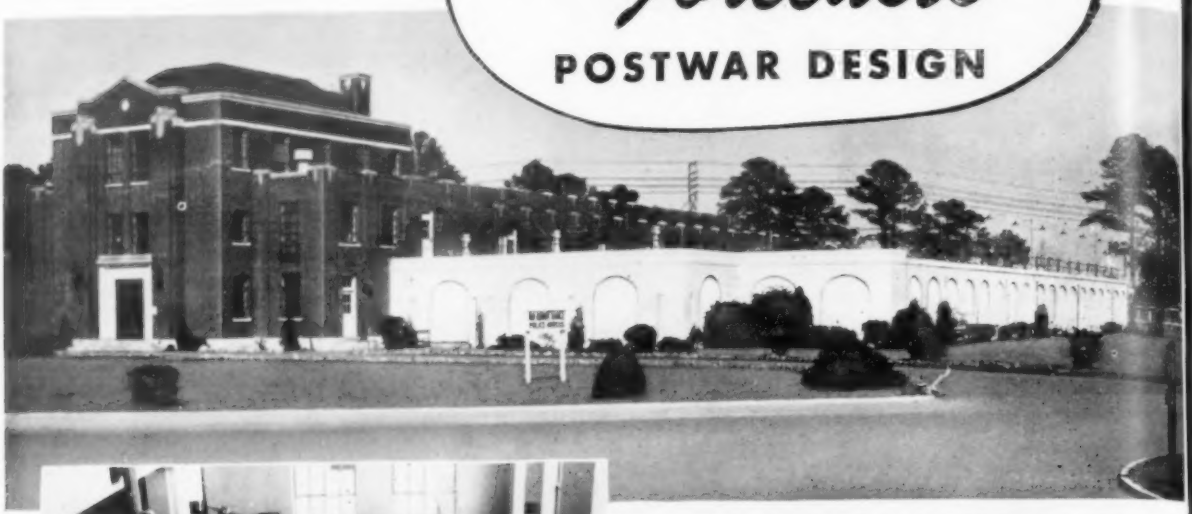
FOR a quarter century the Chamber of Commerce of Rochester, N. Y., has conducted celebrations welcoming into citizenship newly naturalized members of the community. A July 1944 *News Letter* of the Chamber of Commerce of the United States reports the 59th affair of this kind in Rochester.

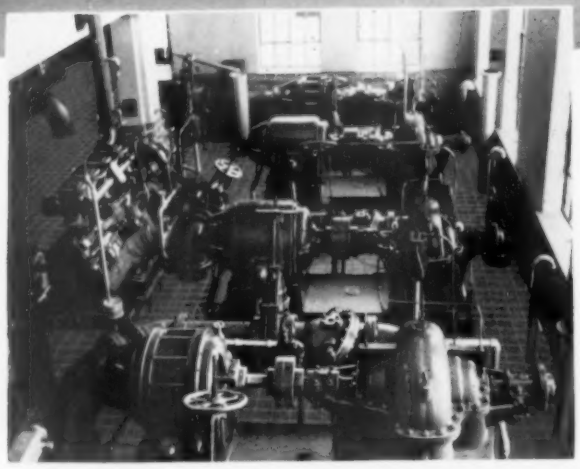
On that occasion a dinner was tendered to 459 naturalized citizens. The huge ballroom of the Commerce Building was crowded with tables, at which Chamber members and their wives served as hostess and hostesses to the new recipients of "final papers." During dinner, badges bearing "New Citizen" were distributed to the proud guests. The Chamber orchestra played during the dinner and for group singing afterwards. A Color Ceremony by the American Legion, a Pledge to the Flag, high school chorus and folk dancing by a school group, two short addresses, and a standing roll call of citizens by land of birth were features of the excellent program. Such dinners are the periodic climax of work which the Chamber staff carries on, proffering aid to aliens and training them to admission for citizenship. The National Municipal League says that the "long successful work of the Rochester Chamber of Commerce should commend this same work to similar groups elsewhere.

LAST PRE-WAR WATER WORKS

Forecasts

POSTWAR DESIGN





Morris Pump Equipment at Rocky Mount, N. C.

TWO RAW WATER PUMPS, type DS14-18H, double suction, horizontally split, bronze fitted; direct-connected to 75 HP, 870-900 RPM motors, 5600 GPM against 40′ TDH.

TWO LOW DUTY CLEAR WATER PUMPS, type DS16-20 double suction, horizontally split, bronze fitted; direct-connected to 30 HP, 490-514 RPM motors, 5600 GPM against 16′ TDH.

TWO HIGH DUTY CLEAR WATER PUMPS, type DS14-H, double suction, horizontally split, bronze fitted; direct-connected to 300 HP, 1175 RPM motors, 5600 GPM against 160′ TDH.

ONE EMERGENCY HIGH DUTY CLEAR WATER PUMP, type DS10-12H, double suction, horizontally split, bronze fitted; direct-connected to 240 HP, 1200 RPM Sterling-Dolphin gasoline engine, 3500 GPM against 160′ TDH.

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If you contemplate changes or additions to your water plant, write now. Get specifications and prices on Morris Pumps to fit your particular needs. Remember, more than three-quarters of a century of proved dependability and economy stand behind every Morris pump.

7 MORRIS PUMPS

featured in deluxe water treating plant at Rocky Mount, N. C.

One of the last municipal water works to be constructed before wartime priorities clamped down on free use of materials, the recently completed Rocky Mount, N. C., water treating plant forecasts trends that will be dominant in postwar utilities.

An ultra-modern addition to a plant completed in 1935, the new construction features 6 electrically-driven Morris double-suction centrifugal pumps that deliver 6,750,000 gallons daily, and a gasoline-driven emergency Morris pump capable of pumping 3,500 gals. per minute against a 160 foot total dynamic head.

Four specific considerations resulted in selection of Morris pumps. These were:

1. Rugged construction with designed stresses held low for smooth, reliable and trouble-free operation.
2. High efficiencies for maximum economy under continuous operation.
3. Quietness of operation.
4. Trim, workmanlike appearance which harmonized with the over-all design of the plant.

MORRIS MACHINE WORKS

Baldwinsville, N. Y.

Branch Offices in Principal Cities

Wartime Water Rates—XII

Among this month's rates, Kalamazoo, Mich., has a particularly interesting system of water charges; Perth Amboy, N. J., shows a 25 percent reduction, and Salina, Kan., a 33⅓ percent reduction over those previously published in THE AMERICAN CITY.

Kalamazoo, Mich.

Rates:

STANDARD RATE—SCHEDULE A

For residential, commercial or industrial customer using water for all ordinary purposes, not specifically provided for by other schedules.

OFF-PEAK RATE—SCHEDULE B

For large industrial customers using water at a nearly continuous rate 24 hours per day or who do not use water (except for janitor or night watch requirements) between 5 p. m. during June to September inclusive. Not to be applied for garden or lawn sprinkling nor for air-conditioning. Application for this rate must be made in writing. This schedule is not advantageous for quantities less than 35,000 cu. ft. per month.

FIRE SPRINKLER RATE—SCHEDULE C

Per Quarter Size of Meter, Inches	4"	6"	8"
First 100 cu. ft.	$7.08	$8.58	$11.08
Next 900 " "	.08	.08	.08
All over 1,000 " "	.02	.02	.02
Minimum charge	7.00	8.50	11.00

The above rates are net. Gross rates, which are 1c per hundred cu. ft. higher, are charged after due date.

Water used outside of the city is charged for at 1¼ times the above rates.

If two or more separate customers are served by one meter under Schedules A or B, the amount of water to be used on each step of the above rates, as shown, is multiplied by the number of such customers so served.

Meters are furnished and maintained without charge.

*Size of meter in use on an account will be given on application to office.

Service connections are installed at the following rates:

¾"—$13.50 plus 50c per ft.
1¼"— 16.60 " 60c " "
2"— 35.70 " 70c " "

} Measured from the center of the street to the inlet valve at the meter.

Prices of larger service connections on application.

All service connections are maintained free of charge.

General Data:

Population served—57,700
Services (100 percent meetred)—14,508
Hydrants—1,147
Miles of main—166
Supply—Wells
Treatment—chlorine only
Tap water—350 ppm $CaCO_3$, pH 7.1
Average consumption—6.72 mgd
Plant capacity—14.54

Consumer Costs Per Month: (⅝" meter)

3,000 gals.	(400 cu. ft.)	$ .55
5,000 "	(667 " ")	.80
10,000 "	(1,333 " ")	1.33

These rates represent a reduction of approximately 10 percent below those reported in THE AMERICAN CITY for November 1934.

EARL E. NORMAN
Utilities Manager

To Simplify by Complicating

AT first glance the water rates charged by Kalamazoo, Michigan, appear rather ponderous and awkward. However, as Earl E. Norman, utilities manager explains, these rates consist simply of a service charge plus a water charge. For example, under Schedule A for a ⅝-inch meter the rate more simply could be stated as follows:

Service charge per quarter	$.80
Charge per 100 cu. ft. for the first 10,000 cu. ft. used per quarter	.08
Charge per 100 cu. ft. for all over 10,000 cu. ft. used per quarter	.06

"However, in dealing with the public," states Mr. Norman, "we have found that it is almost suicidal to talk about a service charge. The average 'man on the street,' does not and will not understand such a thing as a service charge. We have found, however, that we can quote rates based on such a schedule in the form shown on our Form 66.1 and have the public accept them gracefully, without any question whatsoever."

Referring particularly to the fire sprinkler rate, Schedule C, one might think that there was a typographical error in having what is, apparently, an inverted sliding scale. The rates, however, are correct. It is the theory of the officials that a sprinkler installation can get along with not over 1,000 cubic feet of water per quarter, to cover small ordinary leakages, filling tanks, etc. It the customer uses more than this quantity, it is apparent that water is being used for other purposes. Mr. Norman feels that fire sprinkler meters are inaccurate and unsatisfactory. To discourage the use of water in this manner, the city charges 28c per 100 cubic feet per quarter for all water used in excess of 1,000 cubic feet. They have found this to be much more effective than an arbitrary enforcement of an ordinance against such a practice.

RATE PER 100 CUBIC FEET PER MONTH

Size of Meter, Inches	1"	1½"	2"	3"	4"	6"	8"
First 100 cu. ft.	$.73	$1.23	$2.08	$3.73	$6.73	$13.38	$25.08
Next 3,900 " "	.08	.08	.08	.08	.08	.08	.08
" 30,000 " "	.06	.06	.06	.06	.06	.06	.06
" 466,000 " "	.03	.03	.03	.03	.03	.03	.03
All over 500,000 " "	.02	.02	.02	.02	.02	.02	.02
Minimum charge	.65	1.15	2.00	3.65	6.65	13.50	25.00

RATE PER 100 CUBIC FEET PER MONTH

Size of Meter, Inches	¾"	¾"	1"	1½"	2"	3"	4"	6"
First 100 cu. ft.	$.88	$1.33	$2.08	$3.58	$6.08	$11.08	$20.08	$40.08
Next 9,900 " "	.08	.08	.08	.08	.08	.08	.08	.08
All over 10,000 " "	.06	.06	.06	.06	.06	.06	.06	.06
Minimum charge	.80	1.25	2.00	5.50	6.00	11.00	20.00	40.00

Shelbyville, Tenn.

Rates:

First	5,000 gals.	$.35 per 1,000
Next	5,000 "	.30 " "
"	5,000 "	.25 " "
"	5,000 "	.20 " "
"	30,000 "	.15 " "
Over	50,000 "	.10 " "

METER RENTAL

¾" meter	$ .25 per month
¾" "	.50 " "
1" "	1.00 " "
1¼" "	1.25 " "

MINIMUM

1 family—$1.25 plus $.25 meter rental
2 " —2.50 plus meter rental
10 " —12.50 " " "

Mack 505 Triple Combination Pumper . . . a new addition to the Moultrie, Georgia, Fire Department.

A fire has two strikes on it from the start when it's up against a Mack. For 33 years Mack Fire Apparatus have been the last word in fire fighting efficiency. And they have been built to pump water until the fire is out. That's why fire chiefs from Maine to California will tell you— "You can't beat Mack!"

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General Data:

Population—10,000
Number of services—1,714
Meters—1,223
Hydrants—129
Miles of water main—29
Supply—Duck River
Treatment—aluminum sulhphate, chlorine
Average consumption—0.5 mgd
Plant capacity—1 mgd

Consumer Costs Per Month:

3,000 gals.	(400 cu. ft.)	$1.50
5,000 "	(667 " ")	2.00
10,000 "	(1,333 " ")	3.75

The chief change between these rates and that those appear in THE AMERICAN CITY for January 1940 is the adoption of four additional blocks in the water rates scheduled previously. No reduction was given until 50,000 gallons had been consumed. The utility also has changed from private to municipal ownership.

P. J. SCUDDER
Manager and Treasurer
Shelbyville Water System

Bristol, Va.

Water Rates:

CITY DOMESTIC AND COMMERCIAL USERS

First 3,000 gals. or less, $1.00 per month.
Next 22,000 gals. at rate of 25c per 1,000 gals.
Next 25,000 gals. at rate of 20c per 1,000 gals.
Next 50,000 gals. at rate of 15c per 1,000 gals.
Next 200,000 gals. at rate of 12½c per 1,000 gals.
Next 200,000 gals. at rate of 10c per 1,000 gals.
All over 500,000 gals. at rate of 8c per 1,000 gals.

Minimum charge for each meter shall be $1.00 for month with an allowance of 3,000 gallons. A penalty of 10 percent is added for non-payment of amount of bill if not paid in 10 days after date shown on bill.

INDUSTRIAL RATES

		Per Month
First	100,000 gals. or less	$15.00
Next	200,000 " at rate of	.12½
"	200,000 " " " "	.10
All over	500,000 " " " "	.08

Minimum charge for each consumer shall be $15.00 per month with an allowance of 100,000 gallons. A penalty of 10 percent is added for non-payment of amount of bill if not paid in 10 days after date shown on bill.

General Data:

Population served—15,000
Services (100 percent metered)—2,800
Hydrants—185
Miles of main—16
Supply—Springs and a creek
Treatment—All water chlorinated
Tap water—pH 188
Average consumption—2 mgd
Plant capacity—2.7 mgd

Consumer Costs:

3,000 gals.	(400 cu. ft.)	$1.00 (min.)
5,000 "	(667 " ")	1.50
10,000 "	(1,333 " ")	2.75

The rates listed above went into effect on July 1 of this year and represent a change from flat to metered service for domestic users in order to conserve water.

P. A. GOODWYN
Acting City Manager

Corvallis, Ore.

Rates:

The minimum charge per month for service through the various sizes of meters shall be as follows, except compound meters on private fire services, on which the minimum charge shall be for the smaller of the two meters.

⅝" and ¾"	$1.00 per month
1"	1.50 " "
1¼"	2.00 " "
1½"	2.50 " "
2"	3.00 " "
3" and over	5.00 " "

METER RATES

Up to 250 cu. ft per month, $1.00
Next 3,750 cu. ft. per month, 10c per 100 cu. ft.
Next 96,000 cu. ft. per month, 9c per 100 cu. ft.
Above 100,000 cu. ft. per month, 8c per 100 cu. ft.

There is no hydrant rental charges. All private fire protection and sprinkler systems are charged at the meter rates quoted above.

General Data:

Population served—11,500
Number of services (100 percent metered)—3,000
Number of hydrants—175
Miles of water main—65
Supply—Mountain stream
Treatment—Rapid sand filters (pressure type)
Tap water—34 ppm $CaCO_3$, pH 6.5
Average consumption—1¾ mgd
Plant capacity—4 mgd

Consumer Costs Per Month:

3,000 gals.	(400 cu. ft.)	$1.15
5,000 "	(667 " ")	1.42
10,000 "	(1,333 " ")	2.08

This represents about a 5 percent reduction with a substantially lower minimum of rates published in THE AMERICAN CITY for June 1934.

J. A. GALLAGHER
Superintendent

Salina, Kansas

Rates:

First 3,000 cu. ft., 11.25c per 100 cu. ft. or 15c per M gal.
Next 6,000 cu. ft., 9c per 100 cu. ft. or 15c per M gal.
Next 6,000 cu. ft., 6.75c per 100 cu. ft. or 9c per M gal.
All above 15,000 cu. ft., 3.75c per 100 cu. ft. or 5c per M gal.

The monthly and annual minimum charges are as follows, based on size of meter installed:

MONTHLY

Size of Meter	Minimum Charge	Cu. Ft. Allowed
⅝"	$ .75	666.6
¾"	1.10	9,777.7
1"	1.85	1,644.4
1½"	3.35	2,977.7
2"	4.50	4,250

ANNUAL

Size of Meter	Minimum Charge	Cu. Ft. Allowed
⅝"	$ 9.00	8,000
¾"	13.20	11,733.3
1"	22.20	19,733.3
1½"	40.20	35,733
2"	54.00	48,000

Consumers shall have the option of entering into contract for water for a period of one year. The minimum charge to be based on the above schedule payable in advance, and any water used in excess of the annual minimum to be charged for at the rate of 11.25c per hundred cu. ft. or 15c per thousand gallons.

General Data:

Population served—24,000
Services—6,100
Meters—6,260
Hydrants—615
Miles of main—65
Supply—Wells
Treatment—None
Tap water—618 ppm $CaCO_3$ 7 pH
Average consumption—3.9 mgd
Plant capacity—11.5 mgd

Consumer Costs Per Month:

3,000 gals.	(400 cu. ft.)	$ .75 (min.)
5,000 "	(667 " ")	.75 "
10,000 "	(1,333 " ")	1.50 "

These rates went into effect January 1 of this year and are about one-third below those in effect for the past four years.

E. J. ALLISON
City Manager

Perth Amboy, N. J.

Rates: (on quarterly basis)

First	1,000 cu. ft.	$0.30 per 100 cu. ft.
Next	9,000 " "	0.22 " " " "
"	390,000 " "	0.17 " " " "

Where consumers are billed at the rate designated in the third block and these bills are paid within 30 days from the date of the invoice, discounts at the rate of 4 percent per $100 shall be allowed. Special rates are available to consumers using water in excess of 400,000 cu. ft. per quarter.

Public fire protection charge shall be at the rate of $0.0075 per inch-foot of distribution main.

There shall be no charge for the water consumed by hospitals, churches, and benevolent and charitable institutions.

MINIMUM CHARGES

⅝"	meter	$ 3.00 per quarter
¾"	"	4.00 " "
1"	"	6.00 " "
1½"	"	12.00 " "
2"	"	18.00 " "
3"	"	30.00 " "
4"	"	50.00 " "
6"	"	100.00 " "
8"	"	150.00 " "
10"	"	200.00 " "

General Data:

Population—45,000
Population served—38,900
Number of services—9,046
Number of meters—6,824
Number of hydrants—542
Miles of main—104.53
Supply—Wells
Treatment—Chlorine, lime treatment for iron removal, pressure filters
Tap water—44 ppm $CaCO_3$, pH 6.7
Average consumption—8 mgd
Plant capacity—12 mgd

Consumer Costs Per Month:

3,000 gals.	(400 cu. ft.)	$1.15
5,000 "	(667 " ")	1.73
10,000 "	(1,333 " ")	3.20

These rates represent a drop of approximately 25 percent over the rates shown in THE AMERICAN CITY for February 1935 for consumers using over 10,000 cu. ft. per quarter. We have made a profit of around $40,000 in the last 4 years.

JOHN J. RUAGER
Engineer and Superintendent

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who make SEAGRAVE dependable

The service you get from your fire apparatus can be no better than the engineering skill and the mechanical craftsmanship that goes into its making.

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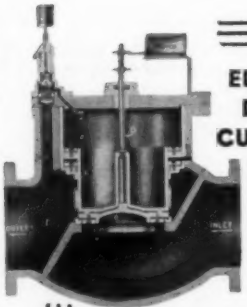
Room 366—111 W. Washington St.
CHICAGO, ILL.



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Conducted by Traffic Control & Facilitation Committee, Institute of Traffic Engineers, 60 John St., New York

D. Grant Mickle, Chairman; Donald S. Berry, Fred W. Fisch, Maxwell Halsey, Wilfred F. Irvin, Harry C. Koch, Philip S. Mancini, Claude N. Maurer, W. F. Milner, W. L. Robinson, I. S. Shattuck, George M. Webb

Two types of highways—at left, Eastern Blvd., New York City; at right, a depressed route in Highland Park, Detroit, Mich.

Traffic Engineers Look Ahead to Bigger Challenge

Make New and Old Channels Handle Vehicular Flood

By D. GRANT MICKLE
Traffic Engineer
Automotive Safety Foundation
Washington, D. C.

In this initial article of a new series looking to post-war traffic conditions, the former Detroit City Traffic Engineer, who is Chairman of the Post-war Traffic Planning Committee for the Institute of Traffic Engineers, discusses the expanding role of traffic engineering and street and highway planning.

ORIGIN-DESTINATION traffic studies, and their companion parking-needs surveys, are now laying the basis for modern post-war thoroughfares, off-street parking facilities and mass transit improvements in a number of American cities. National recognition of the relation of traffic needs to highway design began in 1935 with the state highway departments' rural highway planning surveys.

Those rural surveys, covering origin and destination of trips, trip lengths and purposes, and traffic-volume counts, brought two results of great importance: a recognition that highways should be designed and located to fit traffic needs, and the facts to show that future highway attention must shift heavily to cities, where half of all miles of highway travel are concentrated, and which are the starting points or destinations of three of every four motor trips on all rural roads.

Because of those rural surveys by the states, traffic engineering and city traffic problems were stressed in the 1939 *Toll Roads and Free Roads* report of the United States Public Roads Administration and the *Interregional Highways* report of last January, made by a national committee headed by Commissioner Thomas H. MacDonald of the Public Roads Administration.

Also because of those traffic surveys, recognition of Federal-aid post-war highway construction needs is contained in legislation unanimously approved on June 2 by the House of Representatives Committee on Roads —legislation based on suggestions made by the American Association of State Highway Officials.

The city origin-destination traffic studies and the parking surveys now are under way in many states. They provide a tool in working out solutions to the major traffic difficulties concentrated on arterial city streets. Reports on these new traffic engineering operations, on completed post-war plans for modern traffic and parking facilities, and on special traffic engineering techniques will be carried in these columns.

Engineering Objectives

The Institute of Traffic Engineers defines traffic engineering as that phase of engineering dealing with the planning and geometric (functional) design of streets, highways, and abutting lands, and with traffic operations thereon, as their use is related to safe, convenient and economic transportation of people and goods. In brief, the traffic engineer is concerned with proper *operation* of the road or street as a traffic facility.

Problems in the use of roads and streets now go beyond safety aspects alone. They involve parking and street congestion, and improper use of local business and residential streets by heavy through traffic. Many problems of street use can be overcome only by improved location or design of the streets themselves and by creating adequate and properly situated off-street parking facilities.

Designed and planned transportation in the community makes the proper use of streets a major element of good civic and business development programs; the technical counsel of the traffic engineer is essential in sound city planning operations and in new land subdivisions. Once the traffic problem is accurately defined by a survey, the proper traffic engineering solution usually can be stated promptly, and alternate solutions generally exist if the most effective one is impossible to achieve. The real work lies in get-

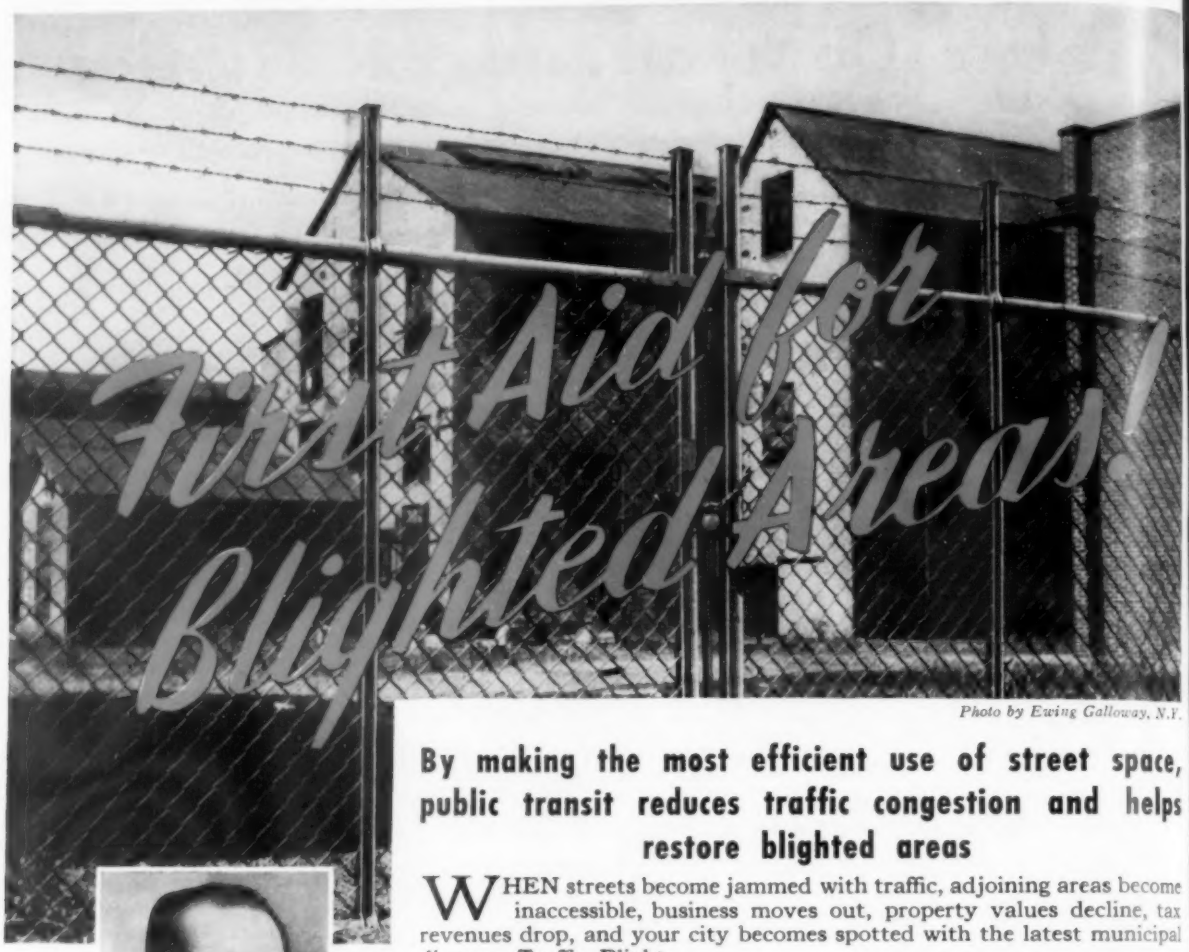

Photo by Ewing Galloway, N.Y.

By making the most efficient use of street space, public transit reduces traffic congestion and helps restore blighted areas

WHEN streets become jammed with traffic, adjoining areas become inaccessible, business moves out, property values decline, tax revenues drop, and your city becomes spotted with the latest municipal disease—Traffic Blight.

You can do much to restore blighted areas if you will follow the recommendations of the men who are skilled in rendering city-wide transportation service—your public-transit officials. It is their business to make every part of the community accessible to every other part. They do it by using street space most efficiently—by putting *people* first not vehicles.

The average transit vehicle occupies 6.6 square feet of street space per passenger. One automobile occupies 114 square feet per passenger—18 times as much per person carried as the transit vehicle.

By using street space most efficiently, public transit eases traffic congestion, assures accessibility to all areas, and protects property values. Give transit an important place in your planning, and you'll boost public service, and help to reduce public debt by eliminating costly traffic control measures and major street widening. *General Electric Company, Schenectady 5, N. Y.*

"Tomorrow's cities must depend upon easily accessible mass transportation," says Walter Blucher in a recent article in *Passenger Transport.* Mr Blucher is executive director of the American Society of Planning Officials; member of the Illinois Postwar Planning Commission; writer on zoning, planning, and housing projects both here and abroad.

GENERAL ELECTRIC

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BUY WAR BONDS

ting the true problems defined.

So numerous and effective have been the advances in traffic engineering techniques in recent years that the major post-war problem becomes one of promoting general public understanding of them, and appreciation of their effectiveness in coping with accidents, congestion, and parking problems.

The limited-access express highway, for instance, can handle two and three times as many vehicles *per traffic lane* as can the widest of ordinary streets. It eliminates virtually all delays and congestion, reduces accident hazards drastically, and protects neighborhood streets from heavy traffic. The highway with the center strip between opposing traffic streams automatically makes impossible half of all rural fatal accidents.

The off-street parking program is inevitable in almost every city, and has many proved benefits. But many cities will hope to solve parking problems at the curb.

Pedestrian cross-over facilities, center-street islands, and safety barriers, all save lives and make for better use of streets.

Channelization of traffic lanes does wonders at difficult intersections. One-way streets are often needed; they expedite traffic, make for safety, and make curb parking more tolerable.

Turnouts and loading zones for busses, center-block stops for street cars and busses, skip-stops for both—all these devices frequently are needed to relieve traffic conditions and speed transit service.

No-left-turn rules work out splendidly on certain main arteries. We tried it on Grand River Avenue in Detroit and reduced the average car's running time 20 percent. Motorists who once opposed it would now fight if someone sought to abandon it.

Better street lighting will be important in the future, because the expanded post-war motor travel will seriously affect the night traffic problem—the most critical period for accidents.

Traffic lights can be improved by modern techniques. Speed zoning of hazardous stretches of roads and streets can solve accident problems without a need for blanket restrictions on reasonable speeds. Special routes to separate commercial and private traffic has proved beneficial in many cities where war brought new traffic patterns, and new road construction was impossible.

The value of the basic traffic control manuals—*Model Traffic Ordinances, Uniform Traffic Control Devices,* and *Uniform Act Regulating Traffic on Highways*—has grown in recognition during the war, and the promotion of uniformity in traffic laws and control devices will continue to be of increasing importance after the war. Better accident records, which relate accidents to road and street design, also will be of large value.

Will measures be taken to segregate local and through traffic after the war?

This, in general, is the post-war objective of traffic engineering. The new Program for Postwar Traffic Safety now supported by 40 national organizations couples the traffic engineering program with the integrated traffic safety program and involves all aspects of post-war road and street construction, traffic enforcement, and safety education. The program recognizes the need for improved and expanded traffic engineering administration in cities and states. Adequate personnel is necessary. War-interrupted traffic engineering training programs must be resumed and expanded. The traffic engineer must be part of the city or state administrative setup, and the *Manual on Uniform Traffic Control Devices* should be adopted officially by the city or state involved.

Problems Will Develop

War's end will bring some quick and some long-range traffic problems. Travel will increase overnight when gasoline restrictions end. Speeds will go up—even now they are rising steadily. With old cars and worn tires, and the substandard condition of traffic control and enforcement programs, an immediate problem of congestion and soaring accident rates is threatened.

Long-range, we know that motor vehicles will be produced at a rate almost double the pre-war averages for a number of years, and that post-war traffic will make pre-war headaches seem minor indeed. Shifts in population from pre-war locations have been widespread during the war, and new housing, airport, recreational and commercial developments will mean new traffic and parking patterns in many localities.

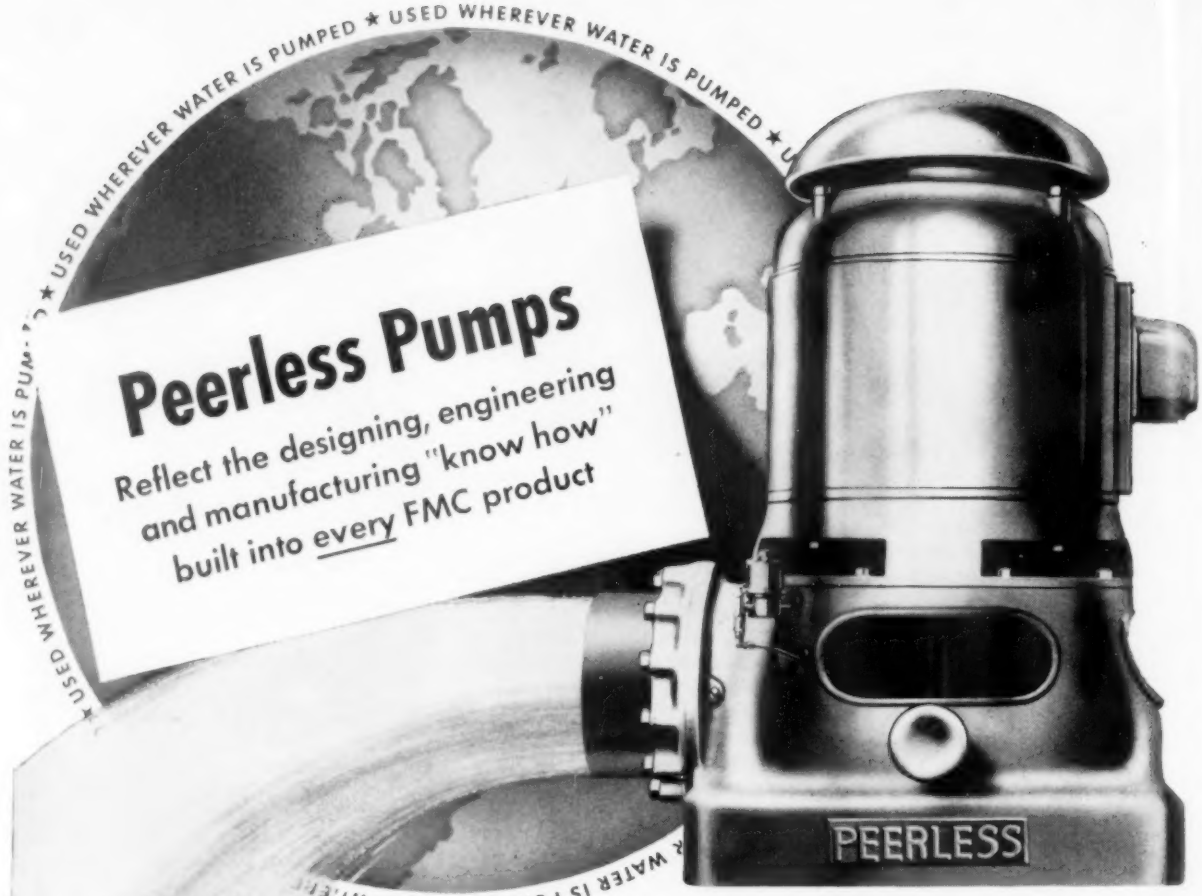
These new traffic problems will be added to the pre-war ones—the unsolved downtown parking problem, the need for something better than stop-and-go lights on main arteries, the congestion and delays and accidents on main city and inter-city routes carrying heavy traffic.

Post-war highway and street modernization programs on the largest scale in history are expected, if only because normal improvement programs have been suspended by war for the first time since the motor traffic problem came into being. Extensive city redevelopment will come about gradually but it has already received intensive study from city planning and private development groups.

The traffic engineer has a key-role in this post-war planning. He must gain the recognition and cooperation of highway and city officials.

The post-war traffic problems will require taking full advantage of the best experiences in traffic and parking operations, and transit developments. Experimenting with unproven solutions must be held to a minimum.

Ensuing articles in this series will be written by traffic engineers in various cities, showing specific accomplishments and completed post-war plans illustrating particular traffic engineering techniques. Included will be traffic routing, parking solutions, intersection redesign, mechanical control measures, traffic planning studies, street lighting, pedestrian control, traffic engineering administration and organization, and articles on aids to traffic engineering.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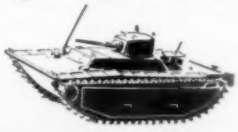

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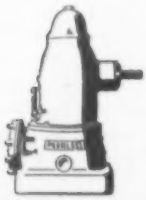

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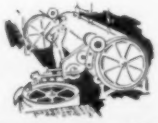

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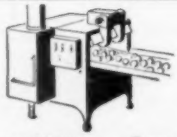

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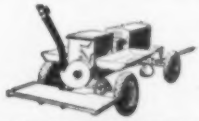

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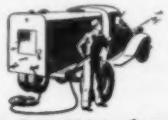

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John Bean Mfg. Co. Fog Fire Fighters, Bean Royal Spray Pumps, Automotive Service Station Equipment. Lansing, Mich.

Proper Traffic Signals— Can Make a Safer City

By W. F. BENSON
Manager, Municipal Division
Eagle Signal Corp., Moline, Ill.

TO discuss traffic-control systems, by modification or replacement, in post-war planning, it is essential to bear in mind that the first requisite must be safety for vehicles and for pedestrians.

From 1913 to 1943, deaths per year in motor vehicle accidents increased from 4,227 to 23,300 whereas death from all other kinds of accidents decreased during this same time from 78,233 to about 71,000. The 1943 motor vehicle deaths are classified as follows:

All ages	23,300
0 to 4 years	1,150
5 to 15 years	2,150
15 to 24 years	4,150
25 to 44 years	6,050
65 and over	3,750

Pedestrian deaths numbered 9,600, non-pedestrian 13,700, rural deaths 12,800, urban deaths 10,500.

From the foregoing statistics, noting particularly the range of age in which most fatalities occur, that is, 25 years and over, it is indicated that we have an important problem to consider in the safety of the pedestrian as well as the safe progressive movement of vehicles through any controlled area. Unless we consider the pedestrian our post-war plans will only be wishful thinking, if we expect fatalities and accidents of all types to reach new lows. Planning for metropolitan safety must dovetail into the state highway planning for rural and urban programs to effect an over-all stoppage of traffic vehicle accidents and fatalities.

In state planning, much is being said about "by-pass highways." The term "by-pass," however, is loosely used and the public generally does not understand either its possibilities or limitations. There is no question that "by-passing," that is, constructing a highway around a municipality, can have a tremendous bearing on the safety problems within the municipality. Carrying all of the heavy trucking on the by-pass highway will relieve the city intersections tremendously. Public vehicles and personally owned automobiles will start and move more expediently when not retarded by the slow-moving traffic which can be diverted on by-passes from the usual city highways.

The nature and extent of a city's facilities depend on conditions peculiar to each city. In some cases, widening of existing streets and prohibition of parking will be necessary to create channels for tomorrow's automobiles. Some of the larger cities are planning super-highways. Such highways, of course, have a minimum of cross intersections and thus a minimum of interference from local cross traffic, but such super-highways through the municipality can only be accomplished at tremendous cost in property condemnation and associated expenses.

Planning for safer streets and highways will necessitate better planning in signaling at intersections where cross traffic can seriously interfere with traffic moving through the city. It will not be sufficient to install traffic signals at an intersection with ANY kind of a controller and say that a good job is done. Time and study of the intersection requirements are first necessary. The proper application of the control, and the locating of signals for visibility are the important consideration. Traffic control can be roughly catalogued into three classifications:

1. Isolated types
2. Interconnected types
3. Demand types

1. *Isolated Control:* When we speak of an isolated controller we usually think of one intersection apart from other signalized intersections and, as not being too important. I wish to make clear that regardless of the motivating power used in the controller, either the induction type or the synchronous-motor type in a non-interconnected system or apart from a system, still makes the controller an isolated unit. Normally those who would call a control system of related intersections a limited progressive system or a non-interconnected system, must recognized that the control is still isolated regardless of what name we may wish to give it. An engineer said recently: "We propose to install traffic controllers at all school intersections, as the elimination of the cost of sending out an officer paid from $2,400 to $3,000 per year for the 3 to 6 hours required each school day will save our city thousands of dollars in manpower police hours, and allow these officers to handle other police problems."

In post-war planning, if controllers of the synchronous type operating at adjacent intersections non-interconnected throughout the controlled area, were converted into interconnecting cable, a large investment would be required the engineer stated. Also, synchronous controllers do lose time each day, even though infinitesimal, and it is necessary to send men once a week to recheck each controller within the non-interconnected system. On the other hand, the mechanic employed in resynchronizing the so-called non-interconnected system has an average salary of $5,000 a year while a police officer averages $3,000 a year. Considering the difference in salaries and the lack of necessity for rechecking synchronous controllers which, by virtue of frequency, are not supposed to go out of synchronism, should be analyzed in the same light as that of the school program. Such analysis will indicate, that by interconnecting the controllers to a master controller the cost of the installation thereof will "pay for itself" in short time.

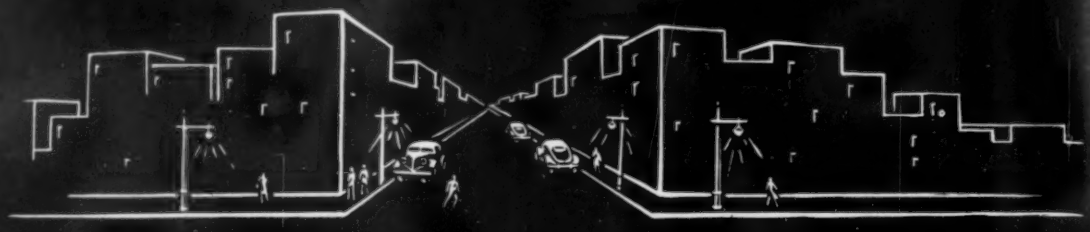
The non-interconnected systems are now replacing many of the simultaneous or alternating controller systems, but even so they are still inadequate and do not provide the excellency of control required under all conditions.

2. *Interconnected Type Control:* Interconnected traffic systems can result in a "safe tomorrow." In the municipally controlled areas, speeds must be maintained consistent with dry and slippery conditions; off period traffic and peak traffic hours or minutes of the day must be regulated. The system should be operated from a central point so as to meet existing daily or hourly traffic needs. This should include progressive and simultaneous vehicular movement, regulated directional flow, consideration of the pedestrian, easy and rapid movement of fire and police equipment. These are but a few of the important phases of the "safe tomorrow," which can be accomplished by an interconnected traffic control system.

3. *Demand Type Control:* Paralleling the importance of interconnected systems are the demand type control for the outlying intersections or for handling of pedestrians at various times during the day and night. Effective control by pre-timed or programmed equipment is not as effective or efficient as is fully actuated equipment, but in tomorrow's planning the demand type density controllers are worthy of consideration. This system consists of non-interconnected density controllers and will supersede the non-

(Continued on page 117)

AFTER DARK ....60% of the deaths



Traffic fatalities in our last year of peace exceeded 40,000—more than our battle deaths in two years of war. Of these fatalities, 60 per cent occurred after dark—when only 33 per cent of the traffic is normally on the streets. Now consider the increased driving hazard that's coming when war restrictions end! Isn't that reason enough to give "Street Lighting Improvement" a high-priority place in your plans for civic betterment? *General Electric Company, Schenectady 5, N. Y.*

GENERAL ELECTRIC

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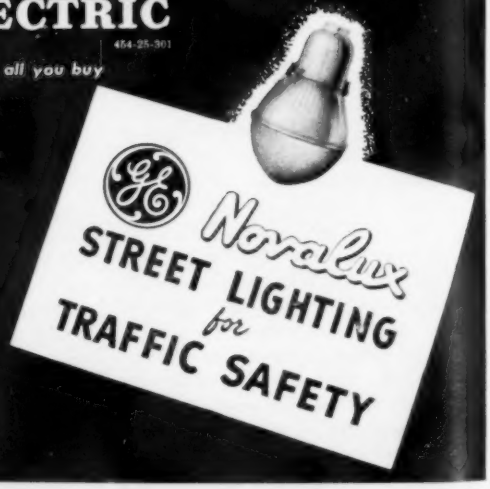
Buy all the BONDS you can—*and keep all you buy*



The City of Tomorrow Night

By ALDEN W. WELCH
Research Editor
The American City

THIS is an address Mr. Welch delivered at the invitation of the Great Lakes Regional Conference of the Illuminating Engineering Society at Cincinnati, Ohio, on May 20, 1944.

THE daytime City of Tomorrow, as far as I can anticipate it, can be limned rather quickly. The air is full of dreams, like a man's mind when with fever. Civilization today is like a child breaking up all its toys and, between fits, babbling of its nursery of tomorrow, when it will play on a new scale, serenely and constructively. Its parents will have something to say about that, and it may be depressing.

The still world consists of land and buildings and streets. When there is one street and a clump of buildings, it is called a farm. When there is a network of streets lined with buildings, it is a city. The physical world consists of farms and cities. The world we deal with consists of farm *dwellers, villagers, townspeople* and city *fellers*.

All conscious progress appears to come from people; and the buildings, streets, and human works are expressions of the characters, strivings and desires of the people who have lived and are living. The City of Today would seem to measure the tidal line of us, its present inhabitants.

The City of Tomorrow—which I take to be of 1950-60 and not 2050—also will be an expression of us who are here today. Do we know so much more now and shall we be so much better then, that our streets will widen, our buildings streamline and zone and arrange themselves gracefully and logically? All this and more can happen in a number of the bombed cities of Europe. There, indeed, will rise cities of tomorrow. Will they be able to grasp the opportunity?

Plymouth, England, exemplifies the first fully replanned ultra-modern city, whose design includes broad highways, green belts, parkways, recreational areas, a smooth-running traffic system, and a rational distribution of population. These completed plans cover a municipal and civic district, a cultural district and a shopping district.

To me, the "City of Tomorrow" means a beautifully convenient city. That I don't expect to see as a commonplace in this country. There will, however, be modern cities. Most of them will be modern with respect to plenty of automobiles, television, convenient kitchens, air-conditioning, pneumatic refuse collection systems perhaps, more sewage treatment plants, and even street lighting—all to serve the same old folks who by that time are tired of war and taxes and are eager for universal pensions.

Do we really want a beautiful city? Beauty is the product of inspired hard work. A city that was beautiful and remained beautiful would be the expression of hard-working as well as intelligent citizens, which may make it sound undesirable.

In every city, however, there *are* hard-working, intelligent, energetic, ambitious and public spirited citizens. This is the group that does things. Most progress comes from convincing some or all of this group that a thing is good for the town, which means for themselves and others. This is the group to sell, whether we peddle incinerators, public recreation, revivals, fire protection, or traffic safety lighting.

Who comprise that group? I think the activating element is the city officials. I don't think that for sentimental reasons alone. They have shown enough energy to get out in front and work for their job, and enough ability to be elected. Sometimes it is genuine intellectual ability. Sometimes it is political ability. Both are the ability to get things done. They work with, and often seem to be worked by, the others of the group —who are progressive (which usually means energetic) merchants, professional men, utility officers, civic, religious and educational leaders, and the newspapers. The mayor, councilmen, commissioners, and the city managers and other city officials are versatile fighters for a cause or a piece of equipment. Sometimes they are in the forefront swinging a mace; again, they are backstage pulling wires. They usually know how to get things done. The best way to get a lot of things done is to be compelled by public opinion to do them. Most city officials know how to get themselves compelled. Let's leave them face it and turn to We, the people.

We are free, independent Americans and we will tolerate no arbitrary *local* political interference in our lives. We will buy any make of car that suits our fancy, any radio, any television set, any color paint for our houses. We'll even debate with the city whether or not we'll shovel the snow off our sidewalk, or mix paper with garbage. And we home-owners want low taxes. Now low taxes and the City of Tomorrow, as I believe you and I visualize it, don't mix.

On the other hand, we all have three heels of Achilles: in ascending order they are pride, greed, fear. We want our family and home to look nice. We want our towns to look nice. The civic pride is *strengthened* by greed. If the town looks nice it may attract a better class of people, advantageous to the social position of our family and tending to make our sons and daughters stronger adults. An attractive town draws visitors and builds business. We don't want to get sick from polluted water, and will therefore stand for water and sewage treatment plants, incinerators, and hospitals. We don't want to be bumped off by a gun or a car on a shadowy street. *We can be sold on good street lighting.*

Therefore, if you will intelligently present the things that satisfy our pride and greed and relieve our fears, we the people will approve a few mills or even a few cents rise in the tax rate. Who is to get over to us the values of those things? *Give the facts to city officials* and they will usually see that the essentials percolate through the body politic. City officials are open-minded toward improvements, when they understand them *fully* and see that they are saleable and will wear.

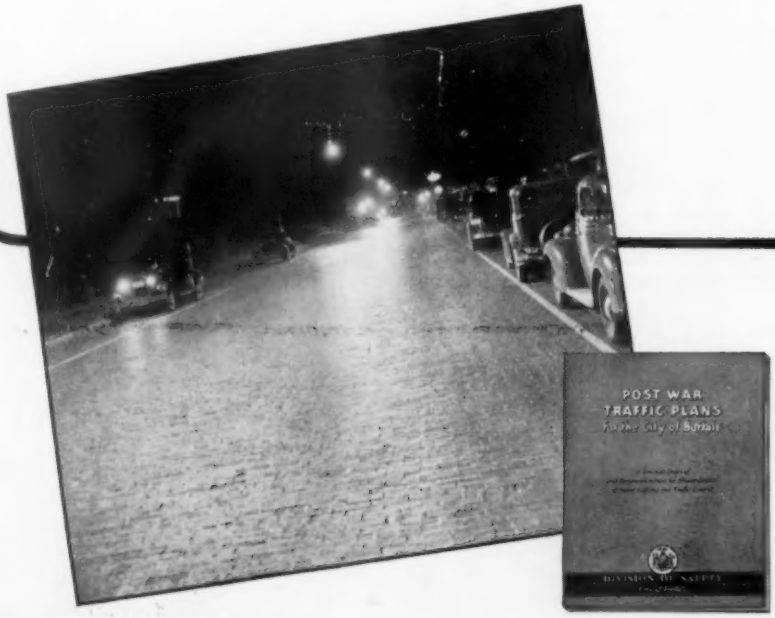
Safe and Sparkling Cities

Whatever the City of Tomorrow will look like by day, it can be a dream city by night. To be that,

You can't convince a mother that street lighting costs too much!

Nighttime traffic accidents are on the increase—in spite of restrictions on travel. Muggings and purse-snatchings make the streets unsafe for women and children. Juvenile delinquency baffles the police. How much longer can this go on before the people rise up and *demand* corrective measures?

Now is the time for you to do something about it. Identify yourself with a public service that can do more than anything else to reduce accidents and crime. Plan a postwar program of street lighting modernization adequate to the needs of the people.



IF you are puzzled about how and where to start, we will be glad to help by showing you how other municipal officials are solving problems similar to yours. For a good beginning, write for your free copy of "Postwar Traffic Plans for the City of Buffalo". The Street and Traffic Safety Lighting Bureau, 155 East 44th Street, New York, New York.

GOOD STREET LIGHTING—THE SIGN OF A GOOD PLACE TO LIVE

which is to say a safe and sparkling city, it must have lighting suiting the times, the traffic, and the town.

My discussion deals less with: "What types of outdoor lighting equipment will the cities want after the war?" than with the question: "Are the cities of their own accord likely to want very much more outdoor lighting?"

Are the cities going to be more interested in mercury vapor lighting or in incandescent lighting? That is like asking: Are people going to prefer gold jewelry or platimum jewelry? The real question, it seems to me, is: To what extent are people going to wear jewelry? Are the cities going to be keenly aware of the importance of business, recreation, safety, and civic attractiveness at night?

Four improvements which are down on the ground and involve outdoor lighting are:

Parks
Recreational areas
Streets and highways
Airports

These elements of municipalities are understood, known to be inadequate, and are slated for development. They need to be brought in tune with the times irrespective of post-war financial conditions.

A current survey of post-war plans proposed or made in 500 cities of all populations shows that

	Number of cities	*Fin. Reserve set aside by* (yes)	(no)
Park developments	98	43	55
Recreational developments	72	41	31
Streets and highways	158	81	77
Airports	46	26	20
	374	191	183

The value of attractive parks, playfields, stadiums and playgrounds *for night use* as well as day use, is generally conceded. The necessity for an expanding system of effective streets and highways for 24-hour travel is obvious. Seventy-five percent of the 500 cities surveyed are making provisions for one or more of these standard improvements and half of these cities have some financial reserve.

Airport Needs

Of particular significance is the rather small reporting of airport projects. Far from indicating inertia, this silence is the lack of news before a major invasion. The cities owned 1,086 of the 2,116 commercial airports in 1943 and almost all of them have been made obsolete by the war development of airplanes. Civil Aeronautics Administration estimates that 500,000 aircraft will be in service by 1950. Ten of the largest 11 cities are said to have too-small airports in the wrong locations; Cleveland is the exception. The airports of the future with up to 45 to 120 landings per hour will attract population and industry and, properly planned, may create new cities with new emphasis on parks, playgrounds, sports fields and amusements. These centers can be made self-supporting show-places brilliant by night. This is not dream planning, but necessity planning calling for enlightened hard courageous planning of the calibre which developed seaports and railroad centers. The roots of this system should form during the ten years following the war, and a new generation will see the flower. The technical requirements of an airport are so strict that they have hardly been glimpsed as yet. The success of aviation, like any other form of transportation, depends on passengers. In most cities there must be only one commercial airport. It must occupy at least a square mile with no surrounding obstructions. It will therefore have to be outside the city, and reached by special transportation. The necessity of handling vastly greater traffic than formerly, requires that planes in landing must come in under radio guidance even in good weather. Schedules must be maintained irrespective of weather conditions. Night landing will be by radio, aided by marker lights invisible except when the plane is low enough to require their guidance. The indications are that $800,000,000 worth of airports will be obsolete. The total electric lighting equipment of a modern airport amounts to 8 to 11 percent of the airport's cost.

Street Lighting Plans

Street lighting we have with us always. Let us step out of the blueprints of helicopters, sport-planes, amphibious aircraft, light, medium and heavy passenger and cargo planes; hasten along the penciled and India-inked parkways to the asphalt and concrete pavements of the Cities of Today.

How are they lighted now? When were the installations made? What improvements in their street lighting do the cities now foresee that they intend to make after the war?

THE AMERICAN CITY has obtained answers to these questions from 100 cities of 10,000 population or more in Ohio, Indiana, Michigan, Wisconsin and Illinois. The questionnaires are signed by 17 different types of city officials, of whom 27 were the Mayors themselves. The other officials were city engineers, city clerks, city managers, city electricians, finance officers, superintendents of municipal utilities.

The oldest system reported was installed in 1914 and an entire new installation is planned for that city, Anderson, Indiana; 26 were installed in the twenties; 18 in 1930-1936; 38 in 1937-1944, of which 19 were of the forties.

Of these 82 cities, 47 plan street lighting improvements. Of the 36 cities whose street lighting is more than ten years old, 18 plan improvements; of the 46 cities whose lighting is not over 10 years old, 28 intend to make improvements. It appears that cities which have made recent improvements evidence greater interest in further improvements than do those cities with 1922 to 1927 installations. An excellent example is Detroit, already the first city in street lighting pioneering and measured progress, where further triumphs on traffic arteries and in the residential district will cost $350,000, or 21 cents per capita. A similar expenditure applied to all the places of 2,500 population or more would aggregate $16,000,000.

So we have 46 out of these 82 cities intending to make improvements ranging from traffic or residential lighting to entire new systems in seven cities and complete business-district lighting in 10 additional cities.

This may not be the whole story. Do all the other cities really mean positively NO when they say *"no we don't intend to improve?"* Our questionnaire to Mayors included this question: If you had your choice between *lower rates* with no improvements, and present or slightly *increased rates* with a new first-class street lighting system, which would you select?

Of the 57 who answered this question, 11 would take the lower rates and 46, or 80 percent, were definitely for first-class lighting *even with higher rates.* Of these 46 cities, twelve had stated that their city planned *no* post-war lighting improvements. Another indication that certain of these cities may be better prospects for new street lights than their answers to a bald questionnaire reveal, is the fact that during the last twelve months officials in at least seven of these "NO" cities wrote for manufacturers' information on modern street lighting equipment. In addition, such requests also were received from 88 other cities in these five states.

Another of our questions was: Are you acquainted with the Illuminating Engineering Society's recommended practice for street lighting, 1940?

Of the 74 who answered this question, 28 said they were acquainted with it and 46 said they were not.

As with many surveys of this general character, a mere statistical summary of the replies is not completely enlightening. Individual analysis gave me the feeling that the improvements

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Largest Producers of Street Lighting Standards

projected are more or less matter-of-course and not the result of an awakening to the fact that the upsurge of the automotive era has produced a new concept of street lighting, together with entirely new equipment which, installed according to directions, provides a level of visibility tending to reduce urban traffic hazards to their daytime size.

How shall that influential group, referred to earlier, be made constructively conscious of the necessity of having a modern street lighting system in their town? First, by having a story and a proposal so definite that it will be accepted as Gospel Truth—because it *is* true and because its acceptance will create a town asset. Do the proponents of modern street lighting now have both the story and the proposal?

Recently I asked several first-class street lighting engineers for their suggestions as to the most important questions leading to greater public interest in adequate street lighting. Here are the

"Important Questions"

1. Do mayors confer with the engineers of the electric utility and electric manufacturers or do they have their own street lighting engineer?

2. Who in the municipal government is responsible for street lighting and recommendations for improvement?

3. Does the city have any department which correlates accident data with street lighting improvements?

4. Are citizens aware that most of the present street lighting equipment is ugly and do they regard it as a necessary evil?

5. Will not some municipalities be thinking of reducing rather than increasing their street lighting?

6. Do not the utility customers (the cities) look at street lighting on a strictly dollar and cents basis? Is not our job, therefore, to sell conversion from the open radial reflector to the enclosed luminaire, using the present type of insulator head?

All these questions are in the nature of scaffolding. They do not sell street lighting, but seek to erect a structure from which street lighting may be sold with less sweat. They seek to sweep away ignorance of the purpose of modern traffic safety lighting, attain acceptance of its obvious necessity everywhere, and to set up an informed municipal street lighting purchasing agent who will write orders for the existing standard stock equipment which produces it.

Ten years ago the curb parking problem had reached the breaking point; the break was the parking meter now operating in 449 cities. Ten years ago modern municipal accounting was a concept; constructive promotion of the accounting machine has made modern tax billing and budgetary accounting a reality in hundreds of cities. The parking meter and the accounting machine each had a story bigger than itself. Putting over that story sold the equipment that would produce desirable results in every city.

The implications of the six questions I read require action. But it also seems to me that these and other questions suggest that either we are not too convinced of the *power* of our *story* for modern street lighting or we doubt the ability of city officials to comprehend it. Similarly, they suggest that our "proposal" lacks the definiteness of a parking meter or an accounting machine.

Street Lighting Chief

If every city had a Street Lighting Chief, as every village, town and city has a Fire Chief, it would be doubly necessary to offer him *modern street lighting apparatus*. It would be folly to tell him he could suit himself on whether or not he cared to go on using his 12-foot standards, or brackets thrust out from wooden poles, or upright luminaires. He would think he was being kidded, as would the Fire Chief were he told he could use horse-drawn steam fire engines, or 4-cylinder fire trucks, or rotary pumps.

The Fire Chief ordinarily wants a 12-cylinder pumping engine equipped with a 1,000-gallon centrifugal fire pump, with 20 particular conveniences of which 3 or 4 are his own ideas. He doesn't want a hook-and-ladder; he wants an 85-foot, and even a 100-foot, aerial truck. He may want both these pieces of apparatus enclosed. He has been known to want a 1,200-gallon pumper even if it sucks his water mains dry in five minutes. He wants the best apparatus built by companies of reputation, for two reasons: to fight fires efficiently, and to look impressive on parade.

The Street Lighting Chief would want first-class lighting apparatus that would be a credit to him, his bureau and his town—by the efficient excellence of its illumination at night and by its handsome, stately appearance by day. He would view with suspicion any salesman who told him he should make a fool of himself with low-mounted upright luminaires challenging the moon or radial luminaires glaring at porches and upstairs windows—even at a comfortable first-cost saving over commonsense equipment scientifically installed.

This is *not* an argument in favor of a Street Lighting Chief, because it is doubtful that the time has come when he could be anything but an alibi, except in the big cities where he is necessary because of the many details involved. When he does come, perhaps he should be called the Traffic Safety Chief and be responsible for reducing accidents at night as well as by day.

Is street lighting frankly discussed in cities? If it is not, then it must be, before anything truly constructive can be accomplished on a large scale. For here is another suggestion made to me by an engineer high in street lighting councils:

"Street lighting is not frankly mentioned to the average citizen and hardly anyone knows anything about its costs or benefits, or who provides it, pays for it, maintains it, or plans it. Between the fear of the utility company to open the question publicly and the interest often of professional politicians for argument chiefly at election times, the matter might often be comparable to a social disease and hushed up."

What city officials and the utilities need is a recognized standard product known here as Adequate Street Lighting for which the city is charged an understandable price which is not subject to Chinese negotiating.

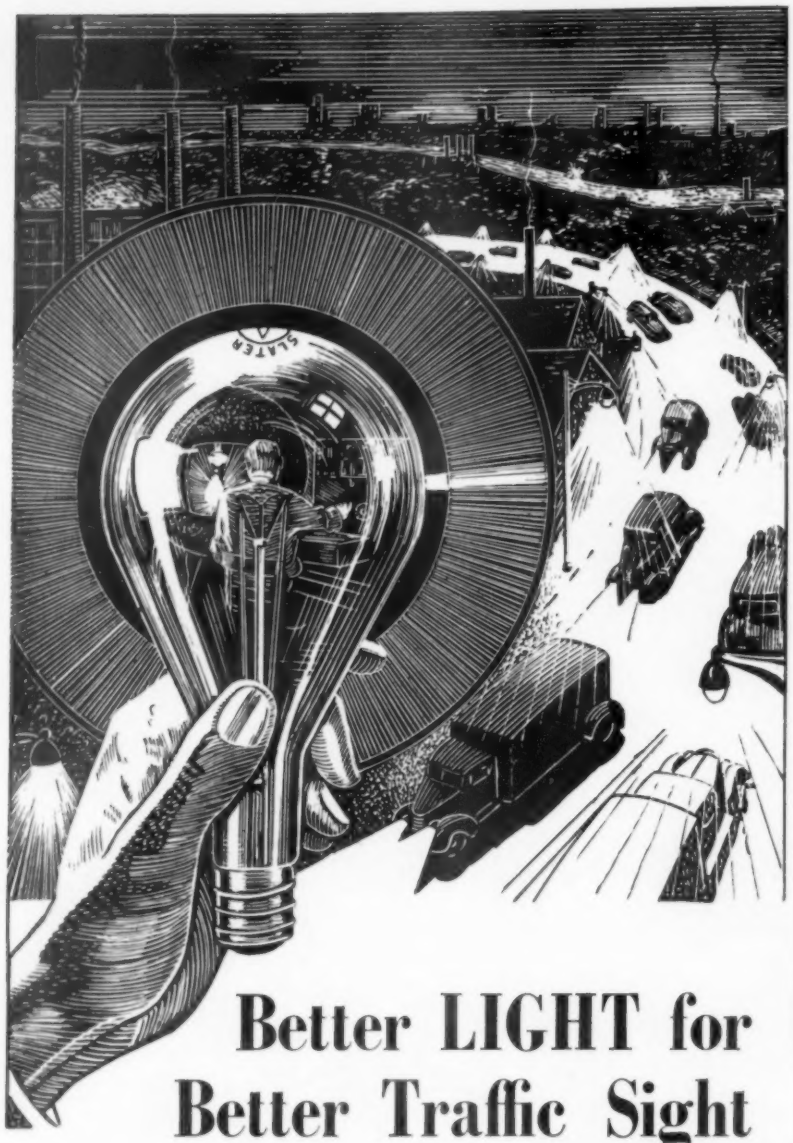
The Product

Adequate street lighting is produced with controlled light distribution onto the pavement. It is designed for installation at definite spacing mounting height ratios. Correctly lamped, spaced and mounted, it fulfills the visibility requirements for night driving safety on all classes of streets. This luminaire is the standard product made by all fixture manufacturers for automobile traffic lighting. With standardized luminaires and supports, it is possible to

1. Standardize on one type of street lighting.

2. Offer a simplified rate schedule, with its ingredients listed as plainly as those on a patent medicine package: *Investment* charge including amortization over 15 years; *Maintenance* charge including lamp renewals, inspection, cleaning, repairs, profit; an *Energy* charge which will encourage the use of larger lamps.

Having these two modern articles—one street lighting and one type of rate openly arrived at—we have something definite and attractive to sell. Without them, we are confronted with querulous questions and half-accusations, which are obstacles to a clear-cut constructive selling program helpful to the public, to city officials, to the utilities, and to lighting salesmen.



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The fact that Slater Lamps are used exclusively throughout New York City . . . and in many other large and small municipalities . . . attest to their satisfactory service record in providing better light for better traffic sight. Write for Catalog.

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BROOKLYN, NEW YORK

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The very design of Mueller-Columbian Gate Valves eliminates the most frequent cause of frequent repair due to leakage, binding, etc., through the use of the exclusive FOUR-POINT wedging contact principle. Mueller-Columbian parallel seat, double disc gate valves have the wedging action applied near the edges at4 points on the discs with equal pressure and thus prevents sprung discs that would cause leakage and binding.

Since constant removal of gate valves from their under ground position is expensive, it will pay you to steer clear of this trouble by installing a valve that eliminates this expense. The extremely low maintenance cost of Mueller-Columbian Gate Valves is generally recognized by waterworks men. If you are not acquainted with all the facts, write us today for full information.

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Electrical Industry Launches Broad Street Lighting Promotion Campaign

Appeals to Utility Executives, Municipal Officials and the Public to Be Timed for and Tied in with Programs of Individual Manufacturers and Utilities

By HAL M. BOURLAND
Secretary, Street and Traffic Safety Lighting Bureau
155 E. 44th Street, New York

ONE of the most important services which can be rendered in the direction of adequate lighting in the heavy traffic days after the war is the provision now of practical information for the use of:

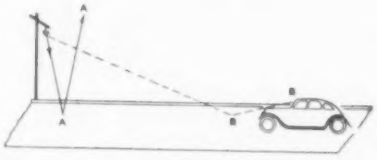
1. Municipal officials who must make the decision and have it agreeable to the public.
2. Utility executives who must provide new equipment and electrical energy and who should receive fair payment.
3. The public who will do the dying in traffic accidents unless suitable street lighting is installed, and who consequently need to understand its values.

These three types of information will be furnished on an organized scale by an Industry Promotion Program sponsored by the Street Lighting Section of the National Electrical Manufacturers Association, through the Street and Traffic Safety Lighting Bureau.

The program is outlined jointly by V. J. Lajeunesse, chairman of the Section, and A. F. Dickerson, chairman of the Bureau. The public will be introduced to the plan through various channels of information and through direct utility outlets.

"It is our belief," Mr. Lajeunesse said, "that if the utilities are properly sold on the idea of promoting street lighting, they will in turn sell an important segment of the public through talks to women's clubs, civic groups, merchants' associations, through window and lobby displays, the circularization of literature provided by the Street and Traffic Safety Lighting Bureau, and through the setting up of demonstration streets and areas."

As part of the appeal to municipal officials, the Bureau will prepare a monthly news letter to be sent directly to them or to be distributed through the utilities or through the facilities of the Street and Traffic Safety Lighting Bureau. This news letter will contain a condensation of news stories, articles and editorials on street lighting appearing in current magazines and newspapers; street lighting promotion plans and activities of cities; accident statistics and general street lighting promotion material. It will be supplemented by monthly direct-mail pieces containing before-and-after pictures which will in its subject matter and sales appeal parallel and expand consumer advertising.



THE OLD AND THE NEW

Many of the old types of luminaires in present use direct the light as in the case of beam (A)—it strikes the pavement, is reflected skyward and is lost for all practical purposes. The luminaires in a modern installation direct an adequate amount of light as in the case of beam (B)—the beam strikes the road surface at an angle which reflects the light in the direction of the driver of the approaching auto, and the surface appears to him to be bright.

Part of the plan also calls for a series of strong advertisements directed at municipal officials, to be launched in THE AMERICAN CITY and other magazines read by such officials. The account has been assigned to the Griswold-Eshleman Company of Cleveland who will tie in and time it in accordance with the program of the several utilities and the individual electric utilities.

An important phases of industry promotion directed toward the utility executives will be a news letter, similar to that for municipal authorities, also to be supplemented by monthly direct-mail pieces stressing the public relations value of good street lighting and showing how street lighting can be put on a profitable basis. Both of these media are expected to serve for the exchange of ideas, with the basic theme tying in with municipal official and consumer promotion.

Utility Advertising Plan

The utility advertising plan of the Section and Bureau for the next several months also calls for a series of display ads in electric utility trade magazines intended to "merchandise" the promotion simultaneously being directed at municipal officials.

Through personal contact, direct-mail and trade-magazine advertising, and other sales helps to be made available to the utilities for selling municipal officials and the public will include exhibits, movie shorts, publicity releases, and sales portfolios containing an outline of the Bureau's and Section's advertising and sales program, sample trade-paper advertisements, photographs of artists sketches of window displays and samples of direct-mail material to be made available to utilities for mailing to municipal officals.

Augmenting the entire program, the Street Lighting Section of NEMA will distribute a "Suggested Street Lighting Plan Book for Utilities" to executive and lighting specialists. While by no means expected to solve the individual problems of the several utilities, it should aid in preparation of a local manual.

According to A. F. Dickerson the motif of the whole program will be:

1. Sell the public on the idea of insist-upon and being willing to pay for adequate lighting by stressing resulting reduction in accidents, saving lives, curbing crime, improving night-time shopping, enhancing property values and a monetary saving of far more than actual cost.
2. Impress upon municipal officials the idea of definitely planning the post-war modernization and extension of street-lighting systems by showing that good street lighting builds good will.
3. Sell public utility executives on the need to promote street and highway lighting by showing that it can be profitable to them.

Municipal officials and utility executives are cordially invited to ask the writer for full information about both our street lighting promotion program and the contents and distribution of the plan book.

IDEAL for Duluth

WARD LAFRANCE TRIPLE COMBINATION PUMPER

(Modified to fit the exact requirements of the Duluth Fire Department.)

Overall Dimensions
Length 25 ft.
Height 85½ in.
Width 8 ft.

Total Loaded Weight 17,300 lbs.

Wheelbase 185 in.

Performance . . . Road speed 60 m.p.h.; 30 m.p.h. on 7½% grade.

Engine 200 h.p.

Pump 1,000 g.p.m. two-stage centrifugal, 6 in. suctions.

Booster Tank 200 gals., operated by separate rotary gear-type booster pump.

Hose Reel 300 ft. of ¾ in. hose top, mounted behind driver's cab to Duluth specifications.

Service Brakes total braking area 398.2 sq. in.

Local requirements and preferences are fully reflected in the Ward LaFrance Triple Combination Pumper recently delivered to the Duluth, Minnesota, Fire Department.

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WARD LAFRANCE

Zoning and Planning Notes

Prepared by FRANK B. WILLIAMS
Author of *The Law of City Planning and Zoning*

Parking Lot—Access

OKLAHOMA.—*City of Norman* v. *Safeway Stores, Inc.*, Supreme Court, February 8, 1944, reported in 145 P. (2d) page 765.

The Safeway Stores, Inc., is the owner of a lot abutting upon a public highway. The company seeks to construct a driveway from these lots to the street, crossing the public highway. It alleges that its driveway would not interfere with the use of the sidewalk by pedestrians; the city claiming, on the contrary, that the driveway would be a constant source of danger and a traffic hazard to both pedestrians and vehicle operators and would create a liability on the part of the city for defects in the street and for accidents there; also, that the city cannot permit the construction of the driveway because of an ordinance of the city which provides that the sidewalk at that place shall be 15 feet wide—the ordinance being passed pursuant to a statute which provides that the authorities of any city or town shall in no event have the power to permit any part of the parking or sidewalk to be maintained or encumbered above or below the grade of the street by any building, retaining wall, etc., or driveway.

The evidence shows that the construction of the driveway would not interfere with the use of the sidewalk by pedestrians or create a traffic hazard to them or to the operators of vehicles.

Eminent Domain—Highways

NEW YORK.—*Broom County* v. *McKune*, Supreme Court, Appellate Division, November 10, 1943, reported in 45 N.Y.S. (2d) page 71.

This is a condemnation proceeding to acquire a strip of land belonging to McKune for the widening of a highway. Before this strip was taken there was an old highway 14 feet wide, in place of which a new highway was constructed 40 feet wide. Within the limits of the old highway and upon land which McKune owned, subject to the right of its use as a public highway, there were maple and fruit trees of considerable size.

Part of the damages given McKune were for these trees and for the fee within the old highway limits.

The Commissioner explained the consequential damages as follows:

"The premises prior to the taking . . . were beautiful from a landscape or artistic standpoint. The maple trees were large and lent dignity and value to the property. . . . It would take so many years to replace them that it is not to be considered. The fruit trees . . . aside from their intrinsic value would take years to duplicate and are a serious loss to the entire property."

The court holds that McKune cannot recover for the fee in the land lying within the old highway limits subject to the easement for highway purposes, nor for the trees upon the land within the old highway limits.

The New York statutes invest abutting owners with an easement or interest in trees upon a public highway. Even though he does not own a fee to the middle of the highway he may recover damages against third persons for injuries to or destruction of trees growing between the sidewalk and the curb; but trees within the highway limits may be removed by proper public officials without compensating abutting owners if the removal be necessary for highway purposes.

Private Streets—Traffic Regulation

MISSOURI.—*Nemours* v. *City of Clayton*, St. Louis Court of Appeals, November 2, 1943, reported in 174 S.W. (2d) 60.

This is a suit for an injunction to prevent the city of Clayton from enforcing its traffic regulations on a private street called Glenridge Avenue in a residential area restricted by private covenants; the plaintiffs holding the street land in trust for the exclusive use of the owners of lots abutting on the street. The lot owners had free access to the street, with the right of passage, subject to such reasonable restrictions as the trustees might prescribe; but, save for a week or two each year when to prevent the public from obtaining any easement of passage the north and south exits were closed, alternately, the street, with the knowledge and tacit consent of its owners, is extensively used for public traffic both by persons living on the street and by the general public, for business on the street and as a thoroughfare to other parts of the City. "In other words," in the opinion of the Court, "so far as use is concerned it is, to all intents and purposes, a public street" under what "amounted to . . . a license," subject to the right of revocation at any time by the lot owners. Nevertheless, "the street remains the property of the lot owners . . . and the city expressly disavows any claim of title to the street."

Of late the use of the street as a traffic artery has greatly increased, so as to create a serious traffic hazard at this point, and the trustees granted the city the right to install a system of traffic control, with proper signals. Consequently, the city amended its ordinances to define the terms "street or highway" to mean "every way or place open for vehicular travel by the public regardless of its legal status and regardless of whether it has been legally established . . . as a public highway." Subsequently, the city installed the traffic signals and signs prohibiting parking on certain parts of the street.

The plaintiffs complain that the traffic lines and prohibition of parking at certain places while they did not constitute a physical obstruction did make the use of cars at their residences difficult.

The defendant city justifies its actions as a proper exercise of the police power, under which the city may regulate traffic on all streets which are rightfully used by the public within its limits, regardless of their legal status—public use giving rise to this right.

The injunction is therefore denied.

Streets

TEXAS.—*Holcomb* v. *City of Fort Worth*, Court of Civil Appeals, October 22, 1943, reported in 175 S. W. p. 427.

The plaintiff Holcomb is the owner of land fronting on Hemphill Street in the City of Fort Worth. This street is 80 feet wide and the plaintiff's title extends to the center of the street, subject to the city's right of way over it.

The part of the street paved for traffic is from 40 to 45 feet wide. On the order of the city, Holcomb planted trees, shrubs, and grass in the portion of the street between the traffic way and his property line, all of which were a material benefit to him.

Later the city widened the traffic way in the street, and in so doing destroyed the trees, shrubs, and grass.

The plaintiff now claims payment for the improvements thus destroyed. This the Court refuses to accord to him for the reason that he had no private right in this street land outside the traveled way, but only the right of a member of the general public. Therefore there was no unlawful taking by the city and no compensation was due.

The right of an abutting property owner of access to the highway is well established. This includes the right to construct a driveway from his property to the street, under proper regulations, with an entrance across the sidewalk for the use of vehicles.

The city contends that the driveway is an obstruction to the sidewalk, but this is contrary to the evidence; nor is the public in general excluded from the use of any part of the sidewalk, or seriously interfered with in such use.

The right of the company to construct its driveway, crossing the sidewalk, to the highway, is therefore sustained.

EDITOR'S NOTE.—The use which Holcomb made of the strip of street land opposite his property was in the nature of an encroachment on city land, made with the consent of the city. The license for such a use may be revoked by the city at any time, and the encroacher must remove the encroachment at his own expense, his only right being to the material removed.

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Municipal Law Notes and Decisions

Prepared by NATIONAL INSTITUTE OF MUNICIPAL LAW OFFICERS, Washington, D. C.
Charles S. Rhyne, *Executive Director*

Airports—Condemnation of Land for—Injunction Denied

Petition to enjoin the condemnation of land for an airport site, brought by a school district and adjoining land-owners was dismissed on the ground that such a use was not a nuisance *per se*, the Court further holding that the city went forward with its plans with notice that such use might become a nuisance or be a continuing trespass. *Warren Tp. School District No. 7, Macomb County* v. *City of Detroit*, 14 N. W. (2d) 134 (Mich. April 3, 1944).

Airports—Condemnation of Land for—Public Necessity

Motion to dismiss petition by city to condemn land outside the city limits for an airport site was denied where it was argued that it did not pertain to the public health or public safety, the Court holding that the power to condemn could be exercised for the public welfare or necessity and that dismissal could not be had on the ground that the county would be deprived of taxable property of great value. *Petition of City of Detroit (Airport Site)*, 14 N. W. (2d) 140 (Mich. April 3, 1944).

Board of Education—Right to Compel Issuance of Salaries Now in Litigation

Board of Education is not entitled to mandamus to compel the payment of salaries to members of the school system whose status is now in litigation, since their right to salaries was dependent on the disposition of the pending case. *Board of Education of City of Bayonne* v. *Flood*, 36 Atl. (2d) 596 (N. J. Sup. Ct. Jan. 17, 1944).

Brush—City Liable for Negligent Burning of

City is not relieved from liability for the destruction of personalty caused by the negligence of city's employees in burning brush merely because brush was collected from state highway running through city. *Peterson* v. *City of Gibson*, 54 N. E. (2d) 79 (Ill. App. Feb. 29, 1944. Reh. Den. Apr. 22, 1914).

Contracts—Delivery of Perishable Foods—Denial of Due Process and Equal Protection

Plaintiff who delivered perishable foods to Kansas City hospitals and penal institutions was not denied due process or equal protection where statutory and charter provisions required city contracts to be in writing and to be awarded only after certification showing appropriations balance and cash balance sufficient to pay obligations. *Donovan* v. *Kansas City*, 179 S. W. (2d) 108 (Mo. Mar. 3, 1944). Certiorari was denied by U. S. Supreme Court May 1, 1944.

Contracts—Recovery of Money Paid to Induce Concern to Move

In an action by city to recover public funds paid to defendant to induce its manufacturing plant to the city, held that the contract was void as beyond the powers of the city and judgment for the amount paid would stand, yet the officers of the corporation, free from bad faith, would not be held individually as agents of the corporation. *City of Kiel* v. *Frank Shoe Mfg. Co.*, 14 N. W. (2d) 164 (Wis. April 14, 1944.)

Elections—Time for Filing—Legal Excuse

Under charter provision requiring the filing of primary election petition at least 40 days before election day, erroneous calculation by election board of Allen County that the last day was July 2 instead of July 1 was a legal excuse for failure to file petition until July 2. *State ex rel. Mihlbaugh* v. *Bogart*, 53 N. E. (2d) 75 (Ohio App. July 17, 1943. Just released for publication).

Fireman—Absent without Leave—Lack of Wilful Conduct

Determination of fire commissioner of City of New York who fined fireman five days' pay because of absence without leave was held to be subject to judicial review and was found to be erroneous where the fireman did not act wilfully but had remained at home on the advice of his physician though contrary to the recommendation of the department's medical board. *Tiernan* v. *Walsh*, 47 N. Y. S. (2d) 633 (N. Y. Sup. Ct. N. Y. Co., March 24, 1944).

Firemen—Right to Both Pensioned and Compensation Award

In action to require city to pay plaintiff the full amount of his firemen's pension and also the full amount of his compensation award, held that plaintiff is not entitled to both pension and compensation as the city is entitled to deduct from the pension any compensation award the amount which plaintiff received from the firemen's pension fund. *Lenfesty* v. *City of Eau Claire*, 13 N. W. (2d) 903 (Wis. Apr. 14, 1944).

Hospitals—City Owned—Use of Facilities by Doctor

Where plaintiff doctor sought to be allowed to use facilities of city-owned hospital, held that since rules regarding qualifications of surgeons to use the facilities were reasonable, a taxpayer and resident physician did not have a constitutional right to unrestricted use of the hospital for major operations without complying with the rules. *Green* v. *City of St. Petersburg*, 17 So. (2d) 517 (Fla. April 11, 1944).

Housing—Failure to Provide for Negroes in Rehabilitation Project

In action by taxpayer for a declaratory judgment that the carrying out of a contract for the cleaning and rehabilitating of a designated area in the City of New York was illegal and for a permanent injunction, held that the housing contract would not be restrained on the ground that there was no intention to provide for housing of Negroes where there was no evidence as to what action would be taken in the future. *Pratt* v. *LaGuardia*, 47 N. Y. S. (2d) 359 (N. Y. Sup. Ct. N. Y. Co., Mar. 16, 1944).

Jehovah's Witnesses—Member Selling Books within Ordinance Licensing Occupations

Member of Jehovah's Witnesses who distributed religious books and had no other occupation was selling books within ordinance prescribing an occupational license tax for agents selling books and such an ordinance was not invalid as violating constitutional guarantee of freedom of religion. *Town of McCormick* v. *Follett*, 29 S. E. (2d) 539 (S. C. Aug. 26, 1943.)

Libraries—Private Corporation—Exclusion of Colored People from Certain Capacities

Where a colored woman sought damages and an injunction against refusal of defendant to receive her as a member of library training course, held that since the library was managed by a private board of trustees and although title to all property was vested in the City of Baltimore for the use of the library, city had no authority to supervise the management, it was a private corporation and hence could refuse to employ colored persons in certain capacities. *Kerr* v. *Enoch Pratt Free Library of Baltimore City*, 54 F. Supp. 514 (U. S. Dist. Ct. D. Md., March 7, 1944).

Liquor—Ordinance Prohibiting Sale of—Purchase from State Liquor Store

On appeal from conviction of unlawfully selling whisky in violation of an ordinance, refusal to charge that since liquor sold had been purchased from Alabama state liquor store it was not prohibited liquor but legal liquor was not error. *Gandy* v. *City of Birmingham*, 17 So. (2d) 421 (Ala. App. Aug. 10, 1943. Reh. Den. Oct. 5, 1943. Aff. after Rem. Jan. 18, 1944).

Officers and Employees—Conspiracy to Pay Public Funds—Action to Recover

Petition alleging a fraudulent conspiracy between a broker and city official to pay out public funds in a manner contrary to a statute as commissions for pretended services held to state a cause of action for the recovery of the money, the acts of the official being his and not the acts of the city. *Kansas City* v. *Halvorson*, 177 S. W. (2d) 495 (Mo. Dec. 6, 1943. Reh. Den. Jan. 3, 1944).

Pension—Death of Fireman of Heart Ailment Not Caused by Duties—Right of Widow

On petition by widow of fireman to require the granting of a pension, held that the finding of the pension board of the City of Bakersfield to the effect that the death of the fireman from a heart ailment was not caused by his duties was supported by evidence and thus was not reversible. *Schmidt* v. *Pension Board for Administration of Relief and Pension Fund*, 147 Pac. (2d) 90 (Cal. App. March 23, 1944).

Policemen—Commissioner's Power to Prohibit Additional Occupation by

Rule by the Commissioner of Public Safety of the City of St. Paul prohibiting policemen from following any other occupation while employed held ineffective because it was beyond the scope of the administrative details authorized by charter, and thus the discharge of a policeman for violating the rule was invalid. *State ex rel. Jakobson* v. *Seamer*, 14 N. W. (2d) 113 (Minn. April 14, 1944).

Policemen—Ordinance Making Resistance to a Misdemeanor Arrest in Accused's Home

Accused is liable for violating ordinance of City of Utica making resistance to a police officer discharging his duty a misdemeanor, where accused had resisted police officers who had been admitted to his home by a small boy and who were attempting to place him under arrest at the request of his wife whom he had just assaulted. *People* v. *Stewart*, 47 N. Y. S. (2d) 349 (N. Y. Ct. Oneida Co., Mar. 6, 1944).

Policeman—"Public Officers"—Summary Review—Incorrect Remedy to Try Title

Certain policemen, whose names had been certified for promotion to the rank of sergeants, brought a petition for summary review of the proceedings of the defendant Board in which the names of petitioners had been passed over, but the court held that since policemen are public officers the correct remedy was held to be *quo warranto* to try title to the office. *Duncan* v. *Board of Fire & Police Com'rs of City of Paterson*, 37 Atl. (2d) 85 (N. J. Sup. Ct. April 19, 1944).

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Conventions—When and Where

Aug. 23-25—Winston-Salem, N. C.
North Carolina League of Municipalities. Annual Conference. (Hotel Robert E. Lee.) Acting Exec. Sec., Mrs. Davetta L. Steed, 704 Raleigh Bldg., Raleigh, N. C.

Aug. 28-31—Grand Rapids, Mich.
International Association of Fire Chiefs. Annual Convention. (Hotel Pantlind.) Sec., Daniel B. Tierney, 8 Robbins Rd., Arlington, Mass.

Aug. 30-Sept. 1—Pittsburgh, Pa.
National Shade Tree Conference. Annual Convention. (Hotel William Penn.) Sec.-Treas., L. C. Chadwick, Ohio State University, Columbus, Ohio.

Sept. 1-2—Vernal, Utah
Municipal League of Utah. Annual Convention. Sec., Tom McCoy, Public Safety Bldg., Salt Lake City, Utah.

***Sept. 7-8—New York, N. Y.**
Governmental Research Association. Annual Conference. Sec.-Treas., Lent D. Upson, 1050 Buhl Bldg., Detroit 26, Mich.

Sept. 11-13—St. Louis, Mo.
National Tax Association. National Tax Conference. (Hotel Jefferson.) Sec., Raymond E. Manning, Library of Congress, Washington.

American Water Works Association—Western Pennsylvania Section. Wartime Conference. (Hotel Roosevelt.) Sec., E. P. Johnson, 418 Flannery Bldg., Section 13, Pittsburgh 13, Pa.

Sept. 12-13—Bismarck, N. D.
North Dakota Water and Sewage Works Conference. Annual Convention. (Hotel Grand Pacific.) Sec.-Treas., K. C. Lauster, c/o State Department of Health, Bismarck, N. D.

Sept. 13-14—Pittsburgh, Pa.
American Water Works—Western Pennsylvania Section. Wartime Conference. (Hotel Roosevelt.) Sec., E. P. Johnson, 418 Flannery Bldg., Section 13, Pittsburgh 13, Pa.

Sept. 14-16—Chicago, Ill.
Illuminating Engineering Society. Technical Conference. (Edgewater Beach Hotel.) Exec. Sec., A. D. Hinckley, 51 Madison Ave., New York 10, N. Y.

***Sept. 15—Ames, Iowa**
Iowa Sewage Treatment Conference. Annual Conference. (Iowa State College.) Sec.-Treas., Lindon J. Murphy, Iowa State College, Ames, Iowa.

Sept. 18-20—Topeka, Kan.
League of Kansas Municipalities. Annual Convention. (Municipal Auditorium.) Exec. Dir., John G. Stutz, Capitol Federal Bldg., Topeka, Kan.

***Sept. 19-20—Watertown, S. D.**
League of South Dakota Municipalities. Annual Convention. (Hotel Lincoln.) Sec., R. D. Falk, University of South Dakota, Vermilion, S. D.

Sept. 19-20—Watertown, S. D.
South Dakota Water and Sewage Works Conference. Annual Meeting. (Hotel Lincoln.) Sec.-Treas., Glen J. Hopkins, Dir., Division Sanitary Engineering, State Board of Health, Pierre, S. D.

Sept. 19-21—Mammoth Cave National Park, Ky.
Kentucky Municipal League. Annual Meeting. (Hotel Mammoth Cave.) Exec. Sec., Carl B. Wachs, c/o University of Kentucky, Lexington, Ky.

Sept. 19-21—Sacramento, Calif.
League of California Cities. Annual Conference. (Hotel Senator.) Sec.-Treas., Chas. Schwanenberg, Hotel Senator, Sacramento, Calif.

Sept. 19-22—Poland Spring, Maine
New England Water Works Association. Annual Meeting. (Poland Spring House.) Sec., Frank J. Gifford, 613 Statler Bldg., Boston, Mass.

Sept. 21-22—Denver, Colo.
American Water Works Association—Rocky Mountain Section. Annual Conference. (Hotel Cosmopolitan.) Sec., O. J. Ripple, Supt. of Filtration, Littleton, Colo.

Sept. 24-27—Chicago, Ill.
American Cemetery Owners' Association. Annual Meeting. (Edgewater Beach Hotel.) Vice-Pres., Roy Hatten, 408 South Oak Park Ave., Oak Park, Ill.

Sept. 24-26—Roanoke, Va.
League of Virginia Municipalities. Annual Conference. (Hotel Roanoke.) Exec. Sec., Harold I. Baumes, 902 Travelers Bldg., Richmond, Va.

Sept. 24-27—St. Paul, Minn.
American Public Works Association. Public Works Congress. (Hotel St. Paul.) Exec. Dir., Frederic Bass, 1313 E. 60th St., Chicago, Ill.

Sept. 25-27—Indianapolis, Ind.
American Institute of Park Executives. Annual Convention with American Park Society. Exec. Sec., Will O. Doolittle, Box 422, Rockford, Ill.

Sept. 26-27—Houston, Texas
League of Texas Municipalities. Annual Meeting. (Hotel Rice.) Exec. Dir., E. E. McAdams, 2220 Guadalupe St., Austin, Texas.

Sept. 26-28—Lake Placid, N. Y.
Municipal Electric Utilities Association of New York State. Annual Meeting. (Lake Placid Club.) Sec., T. J. McKee, 200-212 East Third St., Jamestown, N. Y.

***Sept. 28-29—Jackson, Mich.**
Michigan Municipal League. Annual Meeting. (Hotel Hayes.) Dir., Herbert A. Olson, 205 South State St., Ann Arbor, Mich.

Oct. 1-4—Chicago, Ill.
Institute of Traffic Engineers. Annual Meeting. (Hotel Sherman.) Sec.-Treas., W. Graham Cole, 60 John St., New York 17, N. Y.

Oct. 2-4—Boston, Mass.
International Municipal Signal Association, Inc. Annual Meeting. (Hotel Statler.) Sec., Irvin Shulsinger, 8 East 41st St., New York 17, N. Y.

Oct. 2-5—St. Louis, Mo.
National Association of Public School Business Officials. Annual Convention. (Hotel Jefferson.) Sec., H. W. Cramblet, Board of Education, Pittsburgh, Pa.

Oct. 3-5—New York, N. Y.
American Public Health Association. Second Wartime Public Health Conference and Annual Business Meeting. (Hotel Pennsylvania.) Exec. Sec., Dr. Reginald W. Atwater, 1790 Broadway, New York 19, N. Y.

Oct. 3-5—Des Moines, Iowa
National Association of Assessing Officers. National Conference on Assessment Administration. (Hotel Ft. Des Moines.) Exec. Dir., Albert W. Noonan, 1313 E. 60th St., Chicago, Ill.

Oct. 3-5—Chicago, Ill.
National Safety Council. National Safety Congress and Exposition. (Hotel Sherman, Morrison and LaSalle.) Exec. Vice-Pres., Ned H. Dearborn, 20 North Wacker Drive, Chicago 6, Ill.

***Oct. 4-5—Milwaukee, Wis.**
Wisconsin Chiefs of Police Association. Annual Conference. (Hotel Schroeder.) Sec., R. K. McCarty, Kaukauna, Wis.

Oct. 12-14—Pittsburgh, Pa.
Pennsylvania Sewage Works Association. Annual Conference. (Hotel William Penn.) Sec.-Treas., Bernard S. Bush, c/o, Dept. of Public Health, Kirby Health Center, Wilkes-Barre, Pa.

Oct. 12-14—Pittsburgh, Pa.
Federation of Sewage Works Associations. Annual Meeting. (Hotel William Penn.) Sec., W. H. Wisely, 325-26 Illinois Bldg., Champaign, Ill.

Oct. 12-17—Chicago, Ill.
The International City Managers' Association. Annual Conference. (Medinah Club.) Dir., Clarence E. Ridley, 1313 E. 60th St., Chicago, Ill.

Oct. 15-18—Kansas City, Mo.
National Association of Commercial Organization Secretaries. Third War Conference. (Hotel Muehlebach.) Exec. Sec.-Treas., Miss Elizabeth Glenn, 1615 H St., N.W., Washington, D. C.

Oct. 17-19—Austin, Texas
American Water Works Association—Southwest Section. Annual Meeting. (Hotels Driskill and Stephen F. Austin.) Sec.-Treas., George J. Rohan, P. O. Dr. 449, Waco, Texas.

Oct. 18-19—Milwaukee, Wis.
League of Wisconsin Municipalities. Annual Convention. (Hotel Schroeder.) Sec., Frederick MacMillin, Madison, Wis.

***Oct. 19-21—North Platte, Neb.**
League of Nebraska Municipalities. Annual Convention. (Hotel Pawnee.) Sec.-Treas., C. E. Beals, 310 Continental Bank Bldg., Lincoln, Neb.

Oct. 23-24—Kansas City, Mo.
American Water Works Association—Missouri Valley Section. Annual Meeting. (Hotel President.) Sec., Earle L. Waterman, Room 104, Engineering Hall, University of Iowa, Iowa City, Iowa.

Oct. 24-26—Los Angeles, Calif.
American Water Works Association—California Section. Annual Conference. (Hotel Biltmore.) Sec., Blair I. Burnson, P. O. Box 720, Oakland 4, Calif.

Oct. 25-27—Chicago, Ill.
The American Municipal Association. Annual Conference. (Hotel Blackstone.) Exec. Dir., Earl D. Mallery, 1313 E. 60th St., Chicago, Ill.

Oct. 26-27—Parkersburg, W. Va.
American Water Works Association—West Virginia Section. Annual Meeting. (Hotel Chancellor.) Sec., J. H. Harrington, Division of Sanitary Engineering, State Dept. of Health, Charleston 5, W. Va.

Oct. 30-31—Pittsburgh, Pa.
Engineers' Society of Western Pennsylvania. Annual Water Conference. (Hotel William Penn.) Chairman, H. M. Olson, Hotel William Penn, Pittsburgh, Pa.

Oct. 31-Nov. 2—Peoria, Ill.
Illinois Municipal League. Annual Convention. (Hotel Pere Marquette.) Exec. Dir., A. L. Sargent, 537 So. 4th St., Springfield, Ill.

Nov. 1-3—Chicago, Ill.
Civil Service Assembly of the United States and Canada. Annual Conference on Public Personnel Administration. (Hotel Stevens.) Dir., James M. Mitchell, 1313 E. 60th St., Chicago, Ill.

Nov. 2-3—Toronto, Ont.
Canadian Institute on Sewage and Sanitation. Annual Convention. (Royal York Hotel.) Sec.-Treas., Dr. A. E. Berry, Dept of Health, Parliament Bldg., Toronto, Ont.

***Nov. 2-4—Atlantic City, N. J.**
American Water Works Association—New Jersey Section. Annual Meeting. (Hotel Madison.) Sec., C. B. Tygert, Box 178, Newark, N. J.

Nov. 8-10—Philadelphia, Pa.
American Water Works Association—Four States Section. Wartime Conference. (Hotel Benjamin Franklin.) Sec.-Treas., H. Lloyd Nelson, 1624 Lincoln-Liberty Bldg., Philadelphia, Pa.

Nov. 8-10—Philadelphia, Pa.
Pennsylvania Water Works Operators' Association. Annual Conference. (Hotel Benjamin Franklin.) Sec., I. M. Clace, 22 South 22nd St., Harrisburg, Pa.

***Nov. 16-18—St. Petersburg, Fla.**
American Water Works Association—Florida Section. Annual Convention. (Hotel Suwannee.) Sec., Dr. A. P. Black, Professor, Agricultural Chemistry, University of Florida, Gainesville, Fla.

* First appearance on this page.

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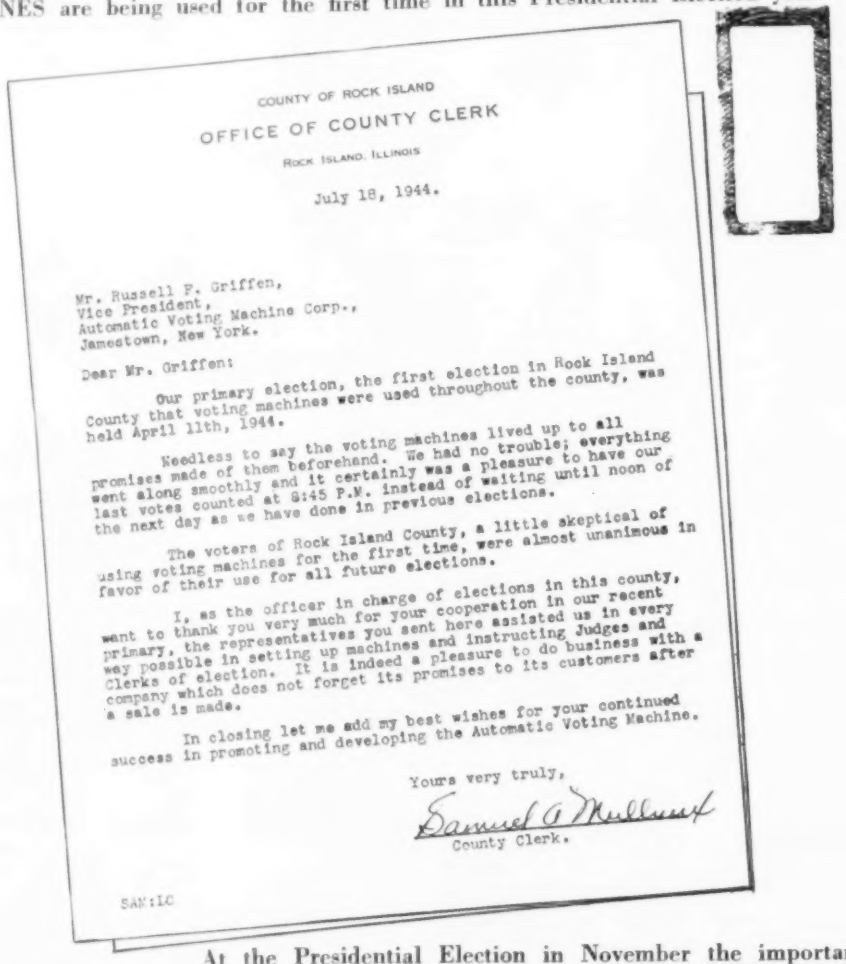

COUNTY OF ROCK ISLAND

OFFICE OF COUNTY CLERK

ROCK ISLAND, ILLINOIS

July 18, 1944.

Mr. Russell P. Griffen,
Vice President,
Automatic Voting Machine Corp.,
Jamestown, New York.

Dear Mr. Griffen:

Our primary election, the first election in Rock Island County that voting machines were used throughout the county, was held April 11th, 1944.

Needless to say the voting machines lived up to all promises made of them beforehand. We had no trouble; everything went along smoothly and it certainly was a pleasure to have our last votes counted at 8:45 P.M. instead of waiting until noon of the next day as we have done in previous elections.

The voters of Rock Island County, a little skeptical of using voting machines for the first time, were almost unanimous in favor of their use for all future elections.

I, as the officer in charge of elections in this county, want to thank you very much for your cooperation in our recent primary, the representatives you sent here assisted us in every way possible in setting up machines and instructing Judges and Clerks of election. It is indeed a pleasure to do business with a company which does not forget its promises to its customers after a sale is made.

In closing let me add my best wishes for your continued success in promoting and developing the Automatic Voting Machine.

Yours very truly,

Samuel A Mullhurst
County Clerk.

SAM:LC

At the Presidential Election in November the important election results will be available for the Press and the public within an hour after the polls close in the following large Cities, as well as hundreds of smaller Cities.

Mobile	San Antonio	Davenport	Saginaw	Union City	Schenectady
Phoenix	Longview	Des Moines	Duluth	Albany	Syracuse
San Francisco	Indianapolis	Fond du Lac	St. Paul	New York	Troy
New Haven	Evansville	Oshkosh	Seattle	Binghamton	Yonkers
Hartford	Fort Wayne	Baltimore	Tacoma	Buffalo	Philadelphia
Bridgeport	Hammond	Brookline	Everett	Hempstead	Allentown
Jacksonville	South Bend	Pittsfield	Newark	Lancaster	Erie
Miami	Cedar Rapids	Grand Rapids	Elizabeth	Harrisburg	Reading
West Palm Beach	Clinton	Jackson	Jersey City	Jamestown	Scranton
Dallas	Council Bluffs	Lansing	Perth Amboy	Niagara Falls	Wilkes-Barre

We solicit inquiries and recommend the Mechanical Ballot as a Post-War project.

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Jamestown 55 ***New York***

Communities in Action

(Continued from page 5)

educational advance and that supplementary funds be advanced by the Community Chest to pay for projects for which there is not a clear tax-money responsibility.

I would propose that the executive secretary and staff whose services are provided by public funds work closely with the public schools, the city libraries, the city and county museums, as well as the many private or semi-public institutions.

This is a new frontier that has not been developed.

Needed: Faith to Match Our Power

The third conclusion about community planning is that we Americans do not know our own strength. Our faith does not begin to match our power. Our dreams are far too modest. To be sure, the thinking of our industrial leaders is bold, forward-looking and resourceful, but while we hail pioneering in science and engineering, we distrust it in the social sciences. We are bold in military strategy, but timid in economic and cultural strategy. We are courageous in our expenditures for war, but extremely timid in expenditures for peace. . . .

I have little patience with the oft-heard question in community planning, "Where is the money coming from?" It is perfectly true that there is a limit to taxation and especially on the taxation of city real estate. But while we have reached the limit of taxation on real estate, there are other tax doors that are still open. In the post-war period these other taxes will be levied freely by both the state and federal government. Thus some local sharing of state and federal funds should make our community dreams easy to achieve. The problem is first of tax reform or tax sharing. The second problem is the psychological change needed to make us willing to spend for community improvement a small fraction of what we now spend so gladly for the colossal waste of war. We need no three hundred billion dollar fund for peace. We could eliminate slums and provide adequate housing for all our people for less than 3 percent of the cost of the war. We can build and endow schools and hospitals, churches and cultural agencies for just a few days cost of a modern war. . . .

A program of community action must have as its cornerstone faith in the future. With the restoration of this faith perhaps we shall also achieve unity for peace and progress.

USSR Academy of Architecture Meets

THE Sixth Session of the Academy of Architecture of the USSR met in July at Architects' House, Moscow, according to a cable received by THE AMERICAN CITY on August 1 from Victor Krasilnikov, who called the Session together.

A report of the Academy's activities for the past ten years was given by Victor Vesnin, President of the Academy, and plans and projects for the reconstruction of Nazi-wrecked Stalingrad, Smolensk, Sevastopol, Novorossiisk, Voronezh, Novgorod, and Kalinin were presented to the delegates by academicians.

"The founding of the Academy of Architecture in 1934 coincided with a period of gigantic construction in our country," said President Vesnin. "It was a time when the first underground stations in Moscow were being built, the construction of Moskvavolga Canal was underway, and plans for the reconstruction of the capital were in effect. Architects were designing pavilions for the agricultural fair in Moscow, and construction of the Palace of the Soviets had been begun." President Vesnin pointed out that war had forced the Academy to revise its activities. One of its main problems was to develop effective methods for camoflage of military objectives and railway junctions. Standard houses were built in the shortest possible time in the interior for hundreds of thousands of evacuees, on the basis of the Academy's blueprints. The Academy also assisted in building new plants and arsenals.

"The year 1943 marked a turning point in the activities of the Academy," Vesnin continued. "It was now faced with the task of rebuilding industrial and residential quarters in Nazi-ravaged towns and villages that were being speedily liberated by the Red Army. Indeed, the architect enters a freed city at the very heels of the Soviet troops, very often to rebuild it anew.

"Such tremendous reconstruction work as is now being carried on demands a corresponding expansion of the building materials industry and definite standardization both in dwellings and details," he said. Economic use of materials and maximum utilization of local materials were important points considered by the Academy's institutes, especially engaged in projecting dwellings. In reconstructing cities and settlements, Soviet architects take into account climatic, historic, and national peculiarities of the locality. Their aim is to achieve complete harmony of architecture and environs.

City Manager Appointments

WALTER H. BARTHOLOMEW, manager of the foreign department of the International Machinery Co., in Dunedin, Fla., has been appointed city manager of that city, effective July 1. He succeeds R. L. Chalk.

HENRY D. HARRAL, planning engineer of Lower Merion Township, Pa., will become city manager of Lewistown, Pa., on August 1. This will fill the vacancy caused by the death of Merle C. Chandler on March 24.

JOSEPH V. LADNER, a cost accountant in the Marinship Yards, has been appointed city manager of Santa Rosa, Calif., to succeed J. A. Tedford.

F. M. WILSON, mayor, will take over the duties of city manager of Warrenton, Ore., until after the November election. The city manager's post was left vacant by the death of City Manager Clifford Barlow on May 24.

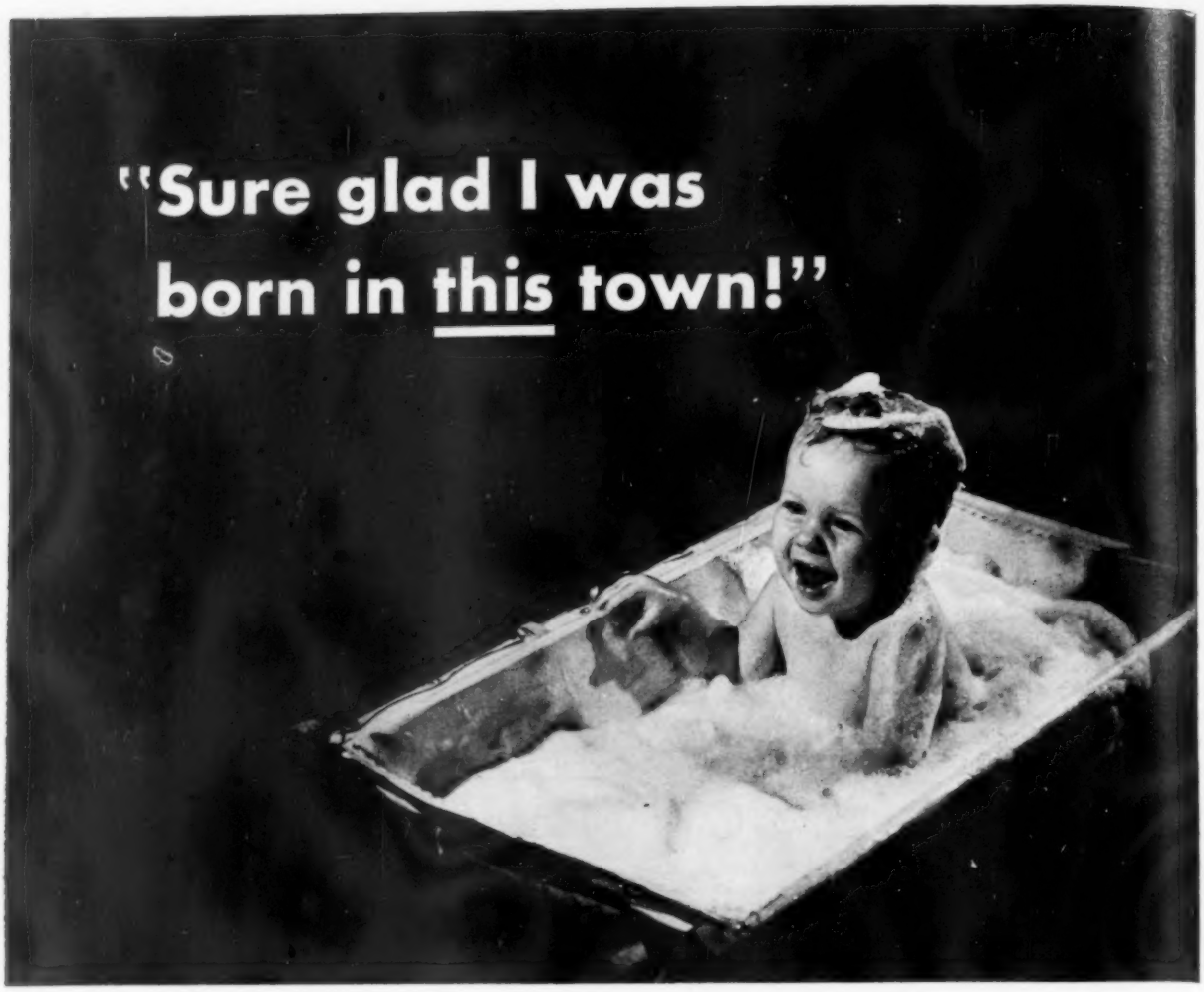
LT. COL. T. E. HINSON, who has just been released from the army after nearly four years of service and who previously was connected with the business organization at the University of North Carolina, has been appointed city manager of Chapel Hill, N. C. He fills the vacancy created by the death of John Caldwell on June 3.

CLARENCE E. RIDLEY
Director, International City Managers' Association

The Municipal Bond Market

Some sales of new issues as reported in July issues of *The Bond Buyer*:

Amount	Borrower and Purpose	Rate (%)	Term (years)	Basis (%)
$3,900,000	St. Louis, Mo., Airport	0.87	8.83 Avg.	0.797
100,000	Newton, Mass., Sewerage	1.0	1-20 Ser.	0.809
217,000	Youngstown, O., Refunding	1.25	8.67 Avg.	1.21
200,000	Boston, Mass., Sewerage	1.25	15.0 Avg.	1.23
790,000	Greenburgh, N. Y., Tax Lien	1.30	2.83 Avg.	1.26
250,000	Norfolk, Va., School	5.50	7-25	1.28
725,000	Huntsville, Ala., Electric System Revenue, Refunding	1.50	10.0 Avg.	1.385
359,000	Scranton, Pa., Sch. Dist. Refunding	1.50	9.33 Avg.	1.431
120,000	Raleigh, N. C., Public Improvement	1.50	13.50 Avg.	1.495
600,000	Birmingham, Ala., Industrial Water Works Refunding	3.0	6-10 Ser.	1.6837
350,000	Galion, O., Water Works Improvement Revenue	1.75	8.67/12.17 O.-A.	1.75
130,000	Lewisburg, Tenn., Water Works	2.0	16.5 Avg.	1.818
1,325,000	Owensboro Bridge Commission, Ky., Bridge Revenue Refunding	2.25	2/23	2.075
117,000	Prestonsburg, Ky., Water Works Revenue Refunding	3.50	15.33 Avg.	2.929
205,000	Hialeah, Fla., Refunding	3.5	6.25 Avg.	3.165
300,000	New York City Tunnel Authority, Battery-Brooklyn Tunnel Construction	.305	50	3.50
260,000	Eustis, Fla., Refunding Issue of 1943	3.50	19.50/32.83 O.-A.	3.50
378,000	Lodi, N. J., Refunding of 1944	3.75	13.17/17.25 O.-A.	3.60



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Municipal and Civic Publications

Housing and Planning in South America

Cities of Latin America.—By Francis Violich. Reinhold Publishing Corporation, New York City. 1944. xii + 241 pp. $3.50.

This is both a *first* and a *must*. It is the first comprehensive account of "housing and planning to the South." The author's first-hand observations are enriched by his sympathetic understanding of the social and economic problems of urban and rural Latin America, no less than by his technical appraisals of housing and planning programs. All the major cities south of the border are described in terms of living conditions as well as architecture and street design. The relations of urban replanning and housing reconstruction to the improvement of life in the cities turn out to be very much like our own; most of the technical as well as the social problems we are facing are accentuated in Latin American cities. There, the urban population is even more highly concentrated than in this country; the differential between urban and rural economic and social conditions (including minimum-standard housing) is greater. All told, the author estimates that two-thirds of Latin America is ill-housed. Through this book, richly illustrated and well documented, we can gain—for the first time in English—a sympathetic yet critical understanding of the problems and programs of urban redevelopment and rural housing improvement among our neighbors to the South.

Mr. Violich's study is also a *must*. He believes that we have much to learn from Latin America in this field. The inspiration of much of its recent replanning and rehousing progress derives from Europe rather than this country. Many innovations tried there are applicable here; the blueprints are traced by him with skill and insight. A directory of Latin American planning technicians which he includes should do much to stimulate exchange of professional ideas and technical data between the two great cultures of the Western Hemisphere. Here is a manual which should be on the desk of every city planner in the United States.

PHILLIPS BRADLEY

Post-War Aviation

The Geography of World Air Transport.—By J. Parker Van Zandt. Volume I of the series America Faces the Air Age. The Brookings Institution, 722 Jackson Place, Washington 6, D. C. 1944. Illus., 58 pp. $1.

The author analyzes some of the popular misconceptions about the structure of the earth and the importance of air routes. The economic conditions of the various countries and the fact that the world is dominated by four regions—Greater Europe, North America, the U.S.S.R., and Asia—will therefore exclude trans-polar routes, long non-stop flights, and excessive hops, the author holds. Airplanes will traverse the most densely populated regions of the world, and on these considerations he maintains, future plans for aviation should be made.

Philadelphia's Economic Policy

An Analysis of the Debt, Revenues, and Expenditures of the City and County of Philadelphia, 1920-1943.—Prepared for the Citizens' Committee on the Philadelphia Debt Structure by the Bureau of Municipal Research of Philadelphia. 1944. 29 pp. and 33 tables of financial statistics.

A statistical survey of Philadelphia's economic condition showing its financial recovery beginning with 1940—a recovery brought about through an increase in revenues resulting from the city's earned income tax, abandonment of borrowing, and postponement of practically all public improvement until after the war. The analysis points out that taxes must be maintained at a sufficiently high level to make it possible for Philadelphia to finance its own public improvements, which must be initiated at a time when market conditions are favorable and not during a boom period.

Metropolitan Los Angeles

Accomplishments 1943. City Planning Commission, Los Angeles, Calif. Illus. 25 pp.

Accomplishments and further plans for the San Fernando Valley. Also, studies of deteriorated areas of Los Angeles with the purpose of showing how typical areas in the city may be redeveloped through public and private cooperation. Maps and explanations are given of the 1940 population distribution of the Los Angeles Metropolitan Area. Also studies, pictures and maps of airports, auditorium sites, a transportation plan, beach and recreational plan, urban redevelopment, industrial activity, and gas, water, power and sewer service areas.

Monopoly of Natural Resources

WHOSE WORLD: *Facts That Mean Prosperity or Chaos in World Affairs.—By Margaret E. Bateman. Published by World Ideas, 60 East 42nd St. New York, N. Y. 25 pp. and 6 maps. $1.00.*

This readable pamphlet is based on the author's conviction that "the monopoly of the God-given resources of this earth and the man-made unnatural trade barriers are fundamentally responsible for the present world situation." Estimates are given as to the very large percentage of the land and natural resources of various countries owned by an exceedingly small percentage of the population. These countries include Great Britain, Germany, Italy, Hungary, Poland, Czechoslovakia, France, Russia, Spain, China, Japan, Northern Nigeria, Australia and New Zealand, South America, Mexico, the United States and Canada, and Denmark.

Miss Bateman's conclusion is that: "If the earth were open to them on equal terms, men would not have to look for jobs; jobs would be waiting for men. Taxes as we know them would disappear. Free enterprise would flourish. Wages would increase as production increased, and once again men would be free to carve out their destinies as our forefathers did when they found 'free land' in America."

Recreation Plans for St. Louis

Plan for Public Recreation Areas, St. Louis, Mo.—City Plan Commission, St. Louis, Mo. January 1944. 39 pp.

A plan to provide adequate recreation facilities for all sections of the city and for various age groups. A survey of existing play areas has been made and the need for increasing these facilities especially in the residential districts has been recognized. The report is effectively illustrated with plates showing the relationship between the school attended by the children and the public play area which they use; existing facilities for white and negro children; proposed parks and playfields; and a Master Plan for Recreation. Note is taken of trends in school enrollment, and the areas in which most of the school-age children live.

Migrant Workers

Migrant War Workers in Newark.— Report by the Housing Authority of the City of Newark, N. J., 57 Sussex Ave., Newark, N. J. April 1944. Illustrated. 31 pp.

A survey of the migrant worker in Newark and his living conditions. The pamphlet points out that at a time when the American standard of living is supposed to be at its highest peak, 1,300 migrant families in Newark were without bathrooms, about 325 families without toilets, and 375 families without heating facilities, out of a migrant population of 13,500 families.

While providing excellent low-cost housing, the Housing Authority of Newark has not met Newark's need. The Newark Department of Health has condemned certain dwellings as substandard, and occupants have been forced to leave, but no provision has been made for re-housing them. The Housing Authority has no vacancies, and cooperation between the War Housing Center and private realtors is absolutely lacking. Such are the facts brought out in this study.

Tenant Population in Pittsburgh's Housing Communities

The Population of Public Housing.—Pittsburgh Public Housing Reports, No. 1. Bureau of Social Research Federation of Social Agencies of Pittsburgh and Allegheny County, 519 Smithfield St., Pittsburgh, Pa. June 1944. 18 pp. 15c.

A survey giving statistics of the age, race, sex and sizes of tenant families in housing communities in and around Pittsburgh, and a comparison of these statistics with others collected on residents of homes in the higher economic areas. The study shows that in the housing projects families are larger, there is a predominance of females, and a proportionately greater number of negroes as compared to the total population of negroes and whites. These facts, in most cases, are causal factors themselves, but this research will be useful in making plans to provide adequate living space in future housing projects.

Urban Redevelopment in California

The Need for Urban Redevelopment Legislation in California.—By The Regional Planning and Development Section. Town Hall, Los Angeles. March, 1944. 34 pp.

An analysis of published proposals for urban redevelopment by private enterprise. The Greer-Hanson plan, published by the National Planning Association, the Urban Land Institute plan, which presents the viewpoint of the National Association of Real Estate Boards, and the proposal of the Federal Housing Administration are discussed in detail. The author points out that in none of these proposals is there provision for tax abatement for private redevelopment agencies which would enable them to meet the expense of the project without subsidies. The Thomas and Wagner bills, which involve federal cooperation in redevelopment, are discussed as is state legislation. Special reference is made to the New York plan.

Maintaining that these laws are inadequate for California, the author sets forth a plan for urban redevelopment which would include such recommendations as eminent domain for the community rather than for private agencies, a comprehensive general plan for intergovernmental cooperation, a Land Acquisition Agency to acquire and dispose of lands for these projects, and reasonable public control of private enterprise in these undertakings.

Portland, Me., Plans

City of Portland, Maine.—Annual Report of the City Planning Board. 1943. 28 pp.

A master Plan for Portland, Me., to be used as a guide for future municipal action. Conformity to this "blueprint" will insure zoning which will set aside appropriate areas for private development—industry, business and housing—as well as guaranteeing the public services of education, recreation and administration. Plans are made for improvements in the educational system, expansion of recreation facilities, and a vast public works program to be initiated at the end of the war. (See p. 67, this issue.)

Post-War Aviation

Freedom of the Air.—By Keith Hutchison. Public Affairs Pamphlet No. 93. Public Affairs Committee, Inc., 30 Rockefeller Plaza, New York 20, N. Y., 32 pp. 10c.

Are we prepared to open our skyways to other nations? Is an international air police force desirable? Who owns the air? Such are the questions raised and discussed. Historical background of the airplane is given, starting with the first famous flight by the Wright Brothers. Mr. Hutchison says, "To prevent a public subsidized scramble for air traffic. . . . We must build in the spirit of the Atlantic Charter, which means on the basis of equal opportunity for all. Planning must be international. . . ." Suggests permanent representative international board with defined powers to regulate air traffic in order to prevent barriers to progress of post-war aviation.

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Charlotte, N. C., Compiles Valuable Report on Community Planning

A Pattern for Charlotte.—Report by Coleman W. Roberts, General Chairman of the Charlotte Planning Committee. June 1944. *2nd edition. Illustrated.* 63 *pp.*

A comprehensive report by the Chamber of Commerce of Charlotte, recommending a Master Plan to take in every phase of civic life: economic development, public works, industry, education, health, transportation and communication, and rural-urban cooperation. Provision is made in this Master Plan for a War Memorial Civic Center, and there is an excellent survey of what has been done along this line, with photographs of similar projects in other cities. A valuable source of information for other communities planning community centers.

The report is a convincing argument for re-development and master planning, written from the businessman's point of view. It gives facts and figures on the relationship between public works, increased salaries, and business horizons and shows that Charlotte has its eye on a leading position in inter- and intra-state commerce.

Illinois Asphalt Conference

Procedings of the First Illinois State Asphalt Conference. Held at the Hotel Abraham Lincoln, Springfield, Ill., February 23-24, 1944. *The Asphalt Institute,* 801 *Second Ave., New York* 17, *N. Y.* 91 *pp.*

A collection of prepared papers and informal discussions designed to bring about greater cooperation between the asphalt industry and related industries, and the Illinois Department of Public Works and Buildings. More efficient means of resurfacing highways, advantages of various pavement designs, treatment of earth roads, and maintenance of city streets are a few of the topics discussed.

More International Trade

American Business and World Trade.—By R. T. Haslam. Standard Oil Company, New Jersey. Address delivered before the Rotary Club of Brooklyn, N. Y. October 6, 1943. 18 *pp.*

Mr. Haslam discusses Standard Oil's contributions to American industry in securing the patents for "hydrogenation," the process of converting coal into oil, bought from I. G. Farbenindustrie in 1927. Standard Oil does not believe in cartels, claims Mr. Haslam, nor does it believe in any combinations to control prices. The credo of the Standard Oil Company is set forth in condensed form: there should be no controls over production, more international trade, and no secret agreements among private companies.

National Housing Conference at Chicago

Proceedings of the National Conference on Post-War Housing: Chicago, March 8-9-10, 1944.—*National Committee on Housing, Inc.,* 512 *Fifth Ave., New York* 18, *New York.* 229 *pp.*

A compilation of addresses delivered at the Conference on Post-War Housing, held in Chicago on March 8-10, 1944, and attended by representatives of 32 states. The aim of the conference was to unite the various groups which comprise the housing industry —such as financial, architectural, and construction groups—for the purpose of exchanging viewpoints on future housing and discussing mutual problems and interests. President Roosevelt set the keynote of the meeting by his letter of introduction in which he stated that the post-war housing program was primarily the responsibility of private industry, with the Government aiding where necessary. Stress was placed upon the need for careful planning, straight thinking, and cooperation among the various groups in order to insure the success of the post-war housing program. The conference succeeded in paving the way for future action.

Berlin, Wis., Reports for 1943

Berlin, Wis. 1943 Annual Report.—*Prepared by the Mayor and Common Council.* 16 *pp.*

Detailed report of the finances, accomplishments and post-war planning program for the city of Berlin. Includes graphs.

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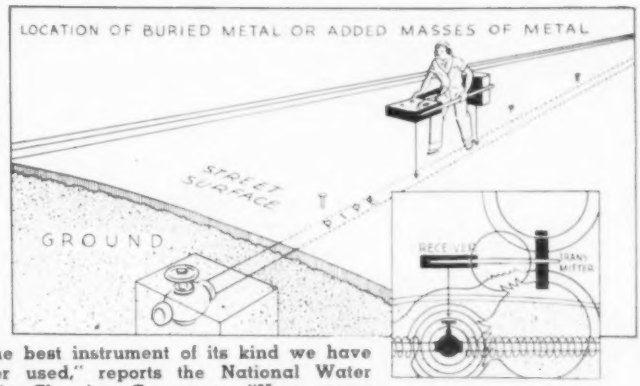

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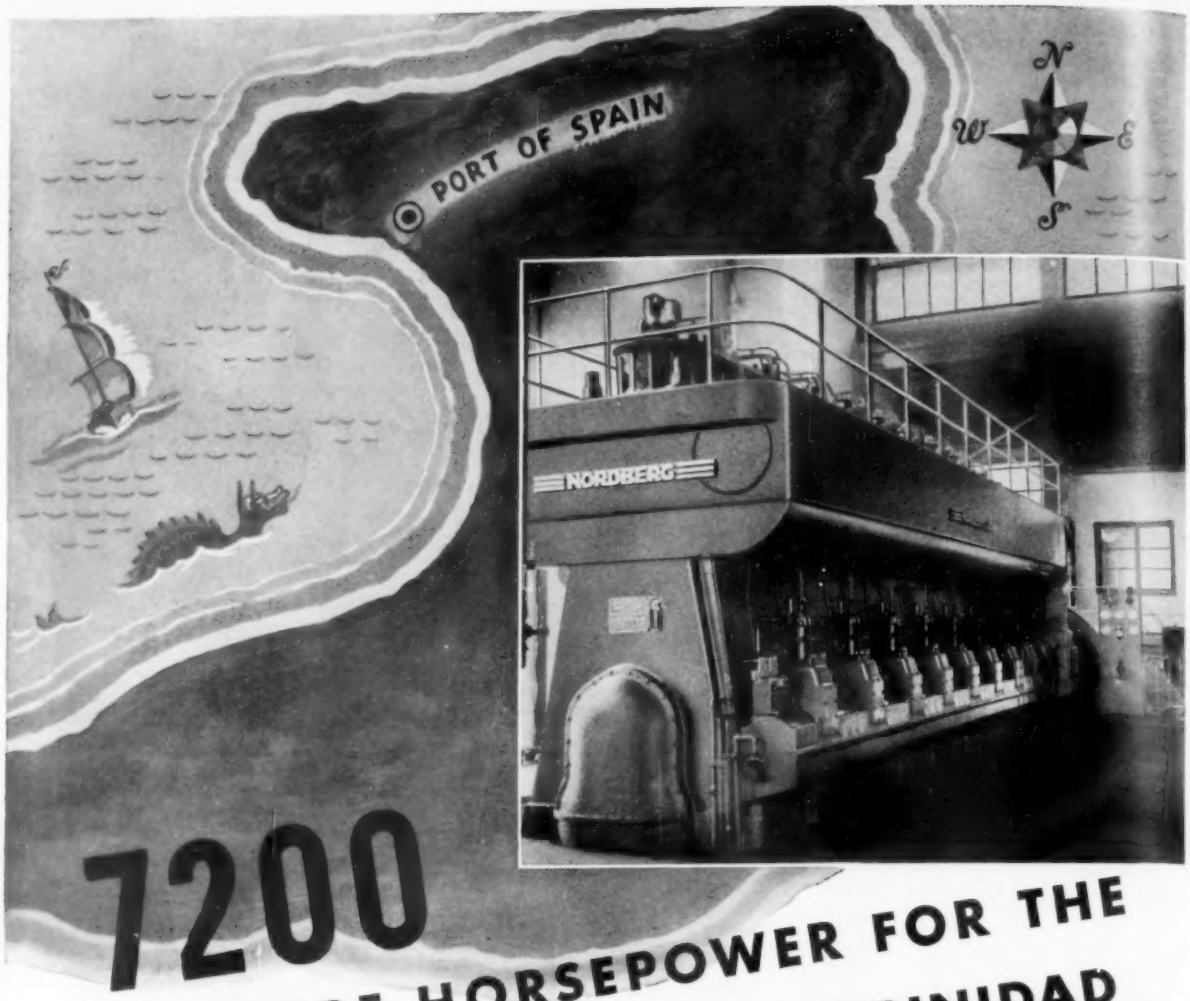

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Planning for Puerto Rico

A DEVELOPMENT PLAN FOR PUERTO RICO.—*By Frederic P. Bartlett and others. Insular Procurement Office, San Juan, Puerto Rico, 1944. vi + 66 pp.* 25c.

This report, isued as Technical Paper Number 1 of the Puerto Rico Planning, Urbanizing, and Zoning Board, was prepared by the former Caribbean Field Office of the National Resources Planning Board. The difficult and pressing problems of Puerto Rico have claimed much attention lately, thus giving this report current significance.

In its own right, the report will interest planners because of its forthright approach to comprehensive planning. Social and economic factors, often paid lip-service by the planning fraternity, are here recognized for what they really are—fundamental considerations underlying all sound planning. The major part of the investigation was concerned with exploring Puerto Rico's resources and facilities, and the opportunities for fuller utilization and development of them. After presenting these findings, the report, under the general heading of "The People," lays the foundation for a broad program of public improvement. Although a first step, this report defines the problem of Puerto Rico and establishes the broad framework within which solutions are to be sought.

Planning in Interstate Sanitation District

Report on Post-War Planning.—Interstate Sanitation Commission, 60 Hudson St. New York 13, N. Y. Seth G. Hess, Director and Chief Engineer. 21 pp.

Enumerates various projects to be considered in post-war public works planning, with special emphasis on pollution abatement of the Interstate Sanitation District. On page 5 are listed the municipalities in which such projects may be feasible. Estimated cost of projects are discussed, and figures listed. Also, maps showing pollution abatement projects and classification of areas of the Interstate Sanitation District.

A Clearance Pattern for Portland

DOES BAYSIDE NEED REBUILDING?—*A Study of Housing Conditions in a Problem Area of Portland, Maine.—American Public Health Association, Committee on Hygiene of Housing for Portland City Planning Board and Portland Health Department, Portland, Maine.* 1944. *36 pp. 14 charts.*

A survey of housing conditions conducted in the Bayside District of Portland, Maine, by the Portland City Planning Board and Health Department during the summer of 1943. The Bayside dwellings and neighborhood environment, considered a sub-standard housing area, were found deficient in those facilities necessary to maintain public health. The report contains recommendations for housing improvement in this area, suggesting that the cure for the housing problem is not a clean-up and repair program, but one of clearance and rebuilding.

Other Reports Received

CINCINNATI, OHIO—Cincinnati Yearbook. 1943. Annual Report of the City Manager. 90 pp.

CLEVELAND, OHIO—Planning Cleveland in 1943. Annual Report of the Cleveland City Planning Commission, 519 City Hall, Cleveland 14, Ohio. Publication Number 6, May 1944. 16 pp.

GREENWICH, CONN.—Summary of the Annual Report of the Town of Greenwich, Conn. For the fiscal year January 1st to December 31st, 1943. Published by The Board of Estimate and Taxation June 19, 1944. 94 pp.

HANOVER BOROUGH, YORK CO., PA.—1943 Annual Report. 19 pp.

LEWISTON, ME.—Your City Government. Report for the fiscal year ending March 31, 1944.

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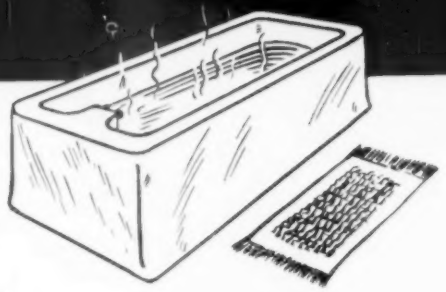

To say the least, it would be a strain on the drain!

Seriously though, the problem of adequate pure water supply in the present, and in the future with possible population shifts and industrial readjustment, is one which concerns all of us who are associated with the water and sewage fields.

So much has been said of "Blueprint Now" that unless we are all on the alert, the facts which this slogan expresses may be lost. And if they are lost, many of us may face a hectic post war existence.

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Traffic Signals Make a Safer City

(Continued from page 93)

interconnected synchronous controllers even in the downtown areas. Costs are not comparable, but the savings to the citizens far outshadow the dollar differences in the effective control and the savings in time.

Now is the time to determine definite standards regarding signal location —to create a standard through the entire 48 states. Investigations are being made by Henry Barnes of Flint, Mich., and Henry Osborne of Buffalo, N. Y., and plans are being drawn up making use of two suspended lights over the intersections and the augmenting of these lights by sidelights. Detroit and Dearborn are augmenting their side lights with two adjustable mast-arm signals. If no plan of standardization can be reached it may be necessary to animate the signals. Particularly this would apply to the red indications so as to make it impossible for the public to miss this important command. Possibly it will be necessary to consider 4-light signals, and alternately flashing, two-red lenses. In the event of burnout of one of the two, a steady red condition can persist during the normal red interval until the maintenance department has re-lamped the section in which the lamp burned out. Many suggestions have been made with regard to standardization and certainly something must be done.

There are no major changes anticipated in traffic signals for "tomorrow" with the exception of some modifications that will be acceptable. On the whole, the industry will follow the specifications as established by the various safety organizations. Experimentation has indicated quite conclusively that die-cast aluminum signals are by far the best units for the present. What the future holds in store is an unknown factor, but the industry is carefully analyzing all developments as they come to our attention and when something better than die-cast aluminum is available the cities will be informed. Our objectives should give that fellow (you and me), driving an automobile and bearing the brunt of the street and highway taxes, a decent and fair break.

Poison Ivy

(Continued from page 53)

derneath will be exposed. These may then be sprayed. In another 48 hours a final spraying may be given to destroy any leaves that remain alive. The Department carries out these three operations on successive weeks. After such treatment the leaves and vines turn brown, are devitalized, and are then incapable of producing new shoots or of causing further irritation. The root structure dies and the seeds are killed.

The solution should be used only on sunny or overcast days so that the chemical will remain in contact with the leaves for at least 8 hours. On rainy days it will wash off and be wasted.

Although there is not a specific statute allowing "right of entry" on private property, when poison ivy is known to be growing on property where it is apt to be a nuisance and the owner is absent, the right of entry is a prerogative assumed under the broad powers of the Health Department. However, permission of the owner is secured if possible.

Today the service is in much demand. The word-of-mouth instruction, personal contact, and educational work done for three years by the inspectors and field crew men is showing results. This year letters and telephone calls for poison ivy eradication came in as early as April. Progress made since 1941 indicates that poison ivy in Brookline may in a few years be found only in isolated spots. In 1941 poison ivy could be found at will practically anywhere within the limits of the town.

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Prompt-Accurate-Complete
YOUR
Automotive Jobber!
Because he maintains a stock of over 100,000 parts, a complete stock of tools, equipment and accessories, and provides a complete machine shop service, your automotive jobber is prepared to give you prompt and intelligent service on every automotive vehicle maintenance job. But don't overlook the advantages of his service for many other mechanical service and maintenance jobs, in addition to automotive. Let your automotive jobber tell you about his complete facilities, services, supplies and quick availability for a multitude of other maintenance jobs.
You can depend upon your Automotive JOBBER!
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PARTS • TOOLS • EQUIPMENT
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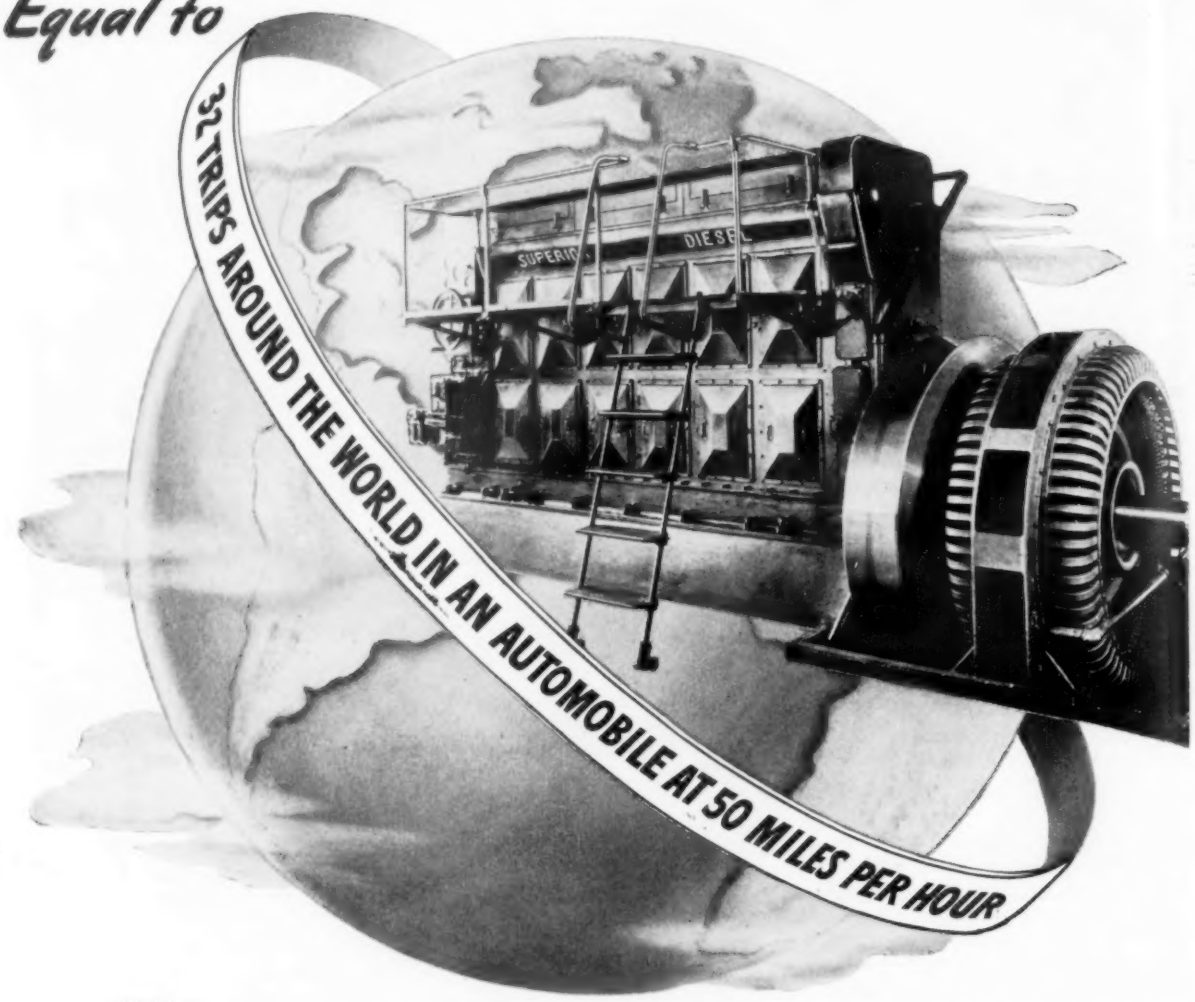
THE COMPLETE ASSOCIATION
Devoted to maintaining and improving the Quality Standards of Service Parts, Equipment and Accessories manufacture, distribution and installation in America's thirty million automotive vehicles, and millions of internal combustion engines, and mechanical equipment.
NATIONAL STANDARD PARTS ASSOCIATION
35th Floor, 8 South Michigan Avenue, Chicago 3, Illinois

A SUPERIOR DIESEL WAS "TORTURE TESTED" FOR 5,160 HOURS . . .

Equal to



We of the Superior engine plant in Springfield, Ohio, are perfectly aware that there is no such thing as a perfect engine. The Superior Diesel we make is a fine engine that has proven its worth and ruggedness in thousands of power installations all over the world. These are simple facts of which we are proud, but it is not our intention to rest on our laurels.

A recent test run of 5,160 hours made on a Superior Diesel in our laboratory is typical of our research efforts to make an even finer engine. During this particular test standard parts were tested against newer developments and at one point the oil flow was intentionally cut off and the bearings deliberately burned out. This was done to determine the effect that burned out bearings would have on the crankshaft. The answer to this was that the crankshaft was unaffected. During the 5,160 hours this engine was tested, it developed an almost continuous rate of 150 horsepower for a total of 774,000 horsepower hours. The data gathered as a result of this and similar tests is your guarantee that the Superior engine you buy is the finest power investment you can possibly make today or tomorrow.

SUPERIOR ENGINES

Division of The National Supply Co.

Executive Offices: Pittsburgh, Pa.

Sales Offices: Springfield, Ohio; Boston; New York; Philadelphia; Washington, D. C.; Jacksonville; Houston; Fort Worth; Tulsa; Los Angeles; Chicago.

Factory: Springfield, Ohio.

Superior DIESELS • STATIONARY, 31 to 1160 H. P.
MARINE, 28 to 1160 H. P. • GENERATOR SETS, 12½ to 770 kw.

Drought in the S. E. States

(Continued from page 59)

Water levels in industrial wells at Ashland are declining. Production has not been curtailed but pumping costs are higher.

The city of Corbin is rationing its water which is obtained from wells.

Tennessee

Based on the evidence of four representatives gauging stations the drought appears most severe in the central and western portions of this state. The flow at representative stations on Cumberland and Duck Rivers for the period July 1-19 has reached below that of any previous July of record. Cumberland River at Carthage reached a low of 0.054 cfs per square mile on July 18-20 and Duck River a low of 0.144 cfs per square mile on July 4. Discharge at representative stations on South Fork, Holston River and Chickamauga Creek in the eastern part of the state, though greatly below normal, remained above the low for July. The flow of these streams did not recede below 0.35 cfs per square mile.

No serious shortage of water for industrial and municipal purposes are reported, although it is possible that in some localities both exist. In general, the towns of Tennessee are supplied from deep wells or large streams and supplies yet available are much greater than demands.

July rainfall to date as reported by the Weather Bureau occurred in widely scattered places. Nearly 7 inches of rain has fallen at Chattanooga since July 1; however, at Hales Bar, less than 20 miles away, rainfall for the month totals only 0.27 inch.

The most serious aspect of the drought in Tennessee is the damage to crops and pastures. Some localities have had to import feed for cattle.

Southern Florida

Recharge from the usual heavy summer rainfall had not yet occurred in large areas in the southern part of the Florida peninsula and as a result water supplies continue low. The cities of Fort Pierce, Miami, and Fort Lauderdale, as well as others, are directly affected by resulting municipal water-supply problems and emergency measures are being taken to protect these coastal sources from sea-water contamination. The large agricultural area within the Everglades drainage district continues under increasing water conservation measures. Shortages of irrigation water may be acute during the fall and winter growing season unless substantial summer rainfall occurs to recharge the lowered Lake Okeechobee reservoir supply.

The flow of Kissimmee River into Lake Okeechobee averaged 520 cfs during the first two weeks of July, less than half of the normal rate of flow for July.

War Housing Project—Permanent Community

(Continued from page 63)

Lake Jackson Co. operates the police department, garbage pick-up, park and street maintenance, and attends to other municipal duties until the town is incorporated and the citizens take over active management.

Citizens of Lake Jackson consider themselves very comfortably situated and feel that they are there to stay. Accordingly, they have already developed a high sense of public responsibility and have begun to take their place among the permanent Texas communities. They have a Junior Chamber of Commerce which received its state and national charters at a big festival last fall. The population is about as large as that of Freeport 3 years ago, and it is planned to have the town incorporated at the next session of the Texas Legislature.

300 GALLONS OF WATER

for every person in America

The combined daily productive capacity of the thousands of Peerless Deep Well Pumps is in excess of 36,000,000,000 gallons. This, figuratively speaking is enough water to supply every person in America with 300 gallons per day. The colossal production of water, pumped by Peerless, is distributed among countless fields—for city water services, on farms and ranches for irrigation and live stock, and in factories and plants for critical war uses,—wherever a dependable water supply is needed. Engineers and experienced pump users made exhaustive study before selecting these thousands of Peerless Pumps. Their judgment is your protection.

PEERLESS PUMPS

PEERLESS PUMP DIVISION
Food Machinery Corporation

TURBINE
HI-LIFT
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301 W. Ave. 26, Los Angeles 31, Calif. • 1250 Camden Ave. S.W., Canton 6, Ohio • Other Factories: San Jose 5, Fresno 16, Calif.

HOT . . . but not bothered

And when we say "hot", we mean 120° in the shade . . . and of course, much hotter inside the gasoline engine of a Homelite Portable Generator. But there's no question of "burning up" . . . for the engine is air-cooled. There's no radiator to boil over or run dry.

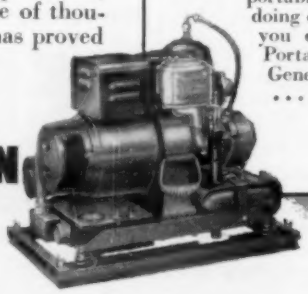
A large fan on the flywheel sends a constant blast of air over the cylinder. Shields direct this air across the fins of the aluminum cylinder . . . providing maximum cooling. Complete lubrication is assured . . . for oil is mixed with the gasoline and sprayed under pressure into all moving parts. No sludge . . . no dirty oil . . . for a fresh, clean film of oil enters the crankcase with each revolution.

And the most interesting thing is this . . . the means of protecting a Homelite from heat, is also the means of protecting it from cold. There's no radiator to freeze. And lubrication is the same hot or cold . . . for oil mixed with gasoline won't congeal, even at sub-zero temperatures.

From broiling tropical heat down to sub-zero arctic temperatures, a Homelite performs without trouble. The performance of thousands of Homelites with the armed forces everywhere has proved this point *plenty*.

City Departments have maintenance troubles all through the year . . . the hottest days in summer and the coldest days in winter. And as your men must work so must your equipment.

For doing this work fast . . . with portable electric tools . . . or for doing emergency work at night . . . you can depend on a Homelite Portable Gasoline-Engine-Driven Generator for your power supply . . . rain or shine . . . hot or cold.



HOMELITE CORPORATION

PORT CHESTER, NEW YORK

News and Illustrations

Items of Interest to City, Town and County Officials and Others Concerned with the Economical Construction and Efficient Operation of Public Improvement Undertakings

Sewer Cleaning Equipment

Many new features are added to the list of equipment offered by the Expanding Sewer Machine Co., 108 E Walnut St., Nappanee, Ind., and are listed in a new catalog, No. 42.

With sewers becoming clogged with roots and packed with sediment from year to year, their capacity is reduced and their load increased. With this condition existing, in time of storm and heavy rain there is danger of great property damage. The Expanding Root Cutter and Sewer Cleaner offered by this company is particularly suited to eliminate this danger. This device can be expanded or contracted to fit any sewer within the limits of the three sizes in which it is made. Its 10 cutting blades of spring steel are effective in either direction the machine is pulled. This is the only machine required for the entire sewer system. It is quick and easy to operate and has proved to be an efficient and inexpensive method of sewer cleaning.

Rockwell Plan for Post-War Operation

Colonel Willard F. Rockwell, leading industrialist and author of the controversial "Rockwell Plan" for post-war operation, recently declared that "further regimentation and regulation of American business will eventually lead to state socialism in this country."

The occasion for this fiery attack on government regulation was Rockwell's appearance on a coast-to-coast American Forum of the Air program. Other participants were Robert E. Freer, chairman of the Federal Trade Commission, John Airey, of the National Association of Manufacturers, and Robert Nathan, former chairman of planning for the War Production Board.

Rockwell opened his verbal barrage against continuance or extension of government control by using Jefferson's famous indictment of the tyrannical rule by English kings. Quoting from the Declaration of Independence, Rockwell drew an inferential comparison between Colonial times and those of today.

"It is my opinion that labor and management together can keep American business in first place in world-wide competition, but if American business is subjected to the delay and extra costs imposed by government regulation directed, as has so often been the case in the past, by theorists and inexperienced bureaucrats, we cannot meet the competition of other nations which have much lower standards of living and much lower wages," Rockwell stated.

"We have met such competition in the past because labor and management have been able to act freely, to introduce new methods, new machinery, and new products under our plan of free, private enterprise.

"State socialism is the ultimate in government regulation. History does not record a single example of successful state socialism. Every nation which has risen to great heights has either been a republic, a monarchy, or a dictatorship. I believe that further regulation and regimentation of American business will eventually lead to state socialism in this country."

World's Largest Wind Tunnel Complete

The world's largest wind tunnel for full-scale airplane testing covering eight acres of ground has been completed at Moffett Field, Calif., by Pittsburgh-Des Moines Steel Co., 3412 Neville Island, Pittsburgh, Pa.

This giant tunnel requiring the highest degree of fabricating skill and craftsmanship in construction was built at a cost of $7,000,000. Eight hundred and sixty-eight feet in length, the towering structure has a ceiling height of 180 feet, a width of 399 feet at the large end, and at the other, 353 feet. Unlike the usual cylindrical-shaped wind tunnel, this new unit is box-shaped, with exterior bracing—leaving the interior unobstructed for air flow.

Six Westinghouse 37-ton 6,000 hp motors produce the man-made hurricane that sweeps through the tunnel. Each motor drives a 6-bladed fan with a diameter approximately the height of the average 4-story building. These motors send 24 million cubic feet of air racing through the tunnel's 2,150 feet at a rate of more than 200 miles per hour, around 3,888 curved vanes at the four corners of the wind tunnel which turn the air at right angles, without turbulence, achieving the greatest velocity at the minimum section of the tunnel, the test section.

The new tunnel is large enough for testing planes with wing spans up to 72 feet, which includes all present pursuit and fighter types, and even medium bombers. This particular tunnel is designed to test aero-dynamic characteristics such as "lift" or "drag." By means of this type of testing, it is stated that the National Advisory Committee for Aeronautics has never failed to add at least 20 additional miles per hour to the speed of an airplane about to go into production.

This wind tunnel, a part of the Ames Aeronautical Laboratory at Moffett Field, is the largest of 21 of these intricate structures built or under construction for various governmental and private agencies by the Pittsburgh-Des Moines Steel Company.

Also in operation at Ames Laboratory are a 16-foot, 600-miles-per-hour tunnel, and two 7 x 100-foot tunnels for similar purposes.

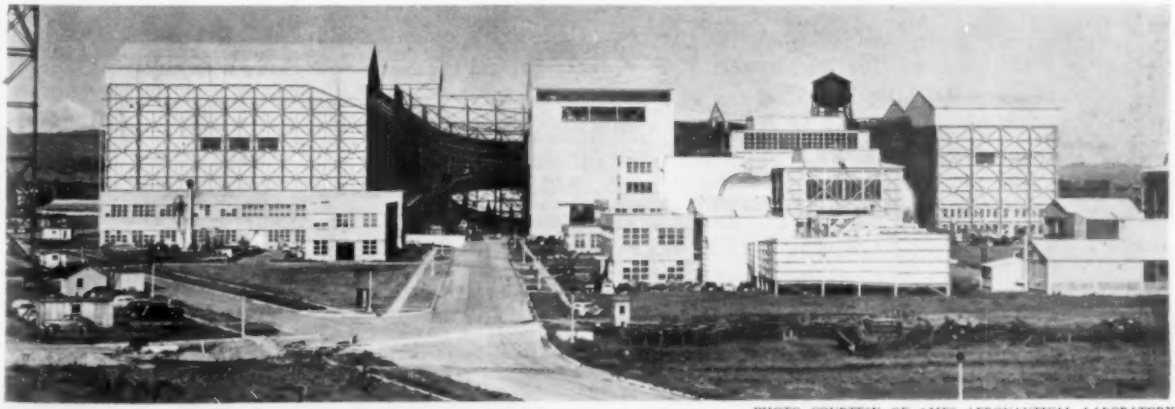


PHOTO COURTESY OF AMES AERONAUTICAL LABORATORY

The new full-scale wind tunnel at the Ames Aeronautical Laboratory, Moffett Field, Calif.

City-Owned Payloaders are always busy

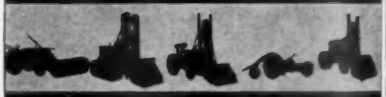
The number of municipal jobs which Payloaders perform—speedily and economically—are myriad. They're always on the go. Municipal users have found Payloaders to be without peer for the handling of bulk materials. Forty to sixty tons per hour are handled by only one man with a Payloader at minimum cost per ton. They truly replace the manpower which today is so hard to find.

Payloaders minimize the cost of street repairs, removing broken pavements, cleaning up debris, leveling garbage dumps, handling sewage sludge, piling and handling coal, pipe, sewer rings, hydrants and lighting standards, etc. They can also be used as heavy duty drawbar tractors and are available with backfiller blades, crane hooks and one-way snow plows.

Payloaders are complete tractor units—not tractor attachments. Engine is located at the rear over the drive axle—providing easier steering, better balance, traction and greater drawbar pull. All operations are controlled by a simple, foolproof hydraulic system.

Send for Bulletin 144 which contains full information.

THE FRANK G. HOUGH CO.
LIBERTYVILLE, ILLINOIS
"Since 1920"



HOUGH
"HUFF"
Tractor Shovels
Road Sweepers

OVER 3,500 HOUGH TRACTOR SHOVELS IN SERVICE

Key men participating in "E" award at the E. D. Etnyre & Co., left to right: H. H. Etnyre, Lt. Comdr. C. R. Brick, U.S.N., E. Elliott, J. Roos, G. M. Etnyre, Lt. Col. John H. Peil, C E., U. S. Army and G. Stron.
SECOND ROW: *C. Myers, Judge Leon Zick, Rev. J. E. Dale, R. D. Etnyre, C. Hvass.*

Etnyre Employees Awarded Army-Navy "E"

Coveted Army-Navy "E" Award Emblems were given the employees of E. D. Etnyre & Co., Oregon, Ill., during ceremonies at the Coliseum Building on June 21, 1944.

Because of necessity of continuous speeded-up production of vital roadbuilding and flusher equipment for the war effort, the ceremonies were held at 8 o'clock in the evening.

The colorful "E" Award Flag was presented by Lieutenant Colonel John H. Peil, C.E. United States Army, and was accepted for the company by Horace H. Etnyre, Vice-President in charge of production.

Lieutenant Commander C. R. Brick of the United States Navy, made the presentation of pins to Etnyre employees. These were accepted on behalf of the employees by a committee of four, Glen Stroh, John Roos, Edward Elliott, Sr., and Chrissio Myers. These individuals were selected for the honor by the entire employee group.

Judge Leon A. Zick served as Master of Ceremonies, with the Posting of the Colors and the raising of the "E" Award Pennant handled by the Color Guard of the American Legion.

Etnyre's production facilities are now devoted nearly 100 percent to war work, making special heavy-duty roadbuilding equipment for military installations.

Star for "E" Flag Awarded to Cochrane

The employees and management of the Cochrane Corp., 17th & Allegheny Ave., Philadelphia 32, Pa., were notified by the Navy Department of the renewal of the "E" production award granted them in February. This entitles them to add a star to their pennant.

The Cochrane Corporation manufactures water conditioning apparatus, steam power plant equipment, and flow measuring instruments.

HOW FAR GONE IS YOUR WATER TANK?

Corrosion of submerged metal surfaces works fast . . . and eventually destroys the unprotected tank.

With *Rustop*, the cathodic method of rust control, you can save your tank. *Rustop* removes old rust . . . stops immediately any further corrosion. Is installed without interruption to service. Costs only a few cents a month to operate. Is a permanent protection, without sandblasting . . . scraping or painting.

Cathodic Protection approved by Associated Factory Mutual Laboratories . . . by War Department (Chief Engineers' Office) . . . by American Water Works Assn.

ELECTRO RUST-PROOFING CORP.
Dayton 10, Ohio

NO PAINT
NO CHEMICALS

RUSTOP ELECTRO RUST-PROOFING CORPORATION

"I like MARCHANT

Because I can set any and all amounts with just one style of keyboard-fingering! Just as in typing, my fingers find the keys without conscious mental effort!"

"My Boss likes MARCHANT

Because he values its 20 POINTS OF SUPERIORITY including AUTOMATIC SIMULTANEOUS MULTIPLICATION"

Eliminates the customary delay! The answer is formed *during* . . . not after . . . the time that the multiplier is being entered! Seconds saved on every problem mean valuable time saved every day.

Deliveries according to WPB schedule.

MARCHANT
SILENT-SPEED ELECTRIC
CALCULATORS
THIRTY-FOURTH YEAR

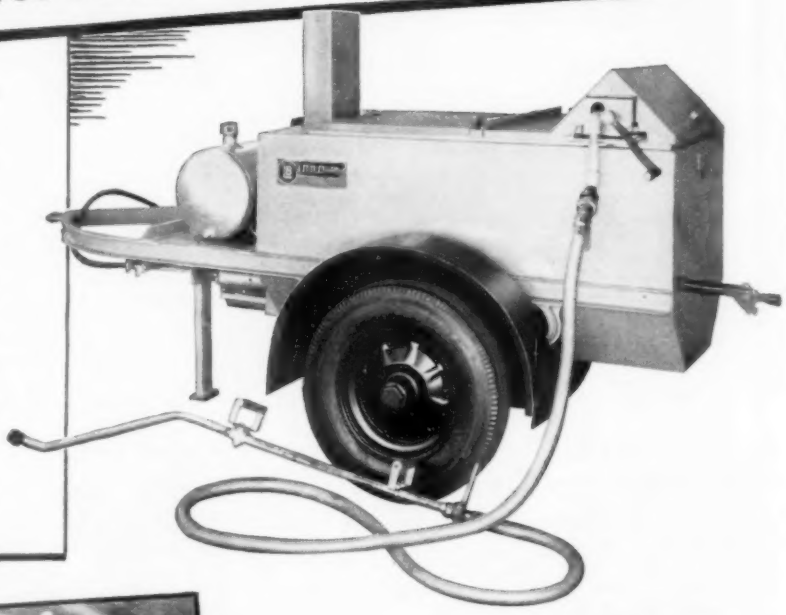
Marchant Calculating Machine Company
Home Office: Oakland 8, California, U. S. A.
SALES AGENCIES AND MANUFACTURER'S SERVICE STATIONS GIVE SERVICE EVERYWHERE

MODEL No. 84-HD MAINTENANCE KETTLE

Here's the Kettle for post-war Road Maintenance with two Patented Features that assure greater heat distribution and a constant flow of melted material.

One of these features, "Double Heat Circulation System," utilizes the entire heat from the burner and distributes it evenly throughout the Kettle, giving faster heating. The other, "Screened Reservoir," keeps the cold materials when added, from cooling off the already melted material, also forces the new materials to the heated sides, making them melt faster.

For an efficient Black Top Road Unit, there is none to equal the Littleford 84-HD Kettle.



When shoulder work is required the 84-HD with hand spray attachment will do the job. Only two men are required to operate this 84-HD Kettle.

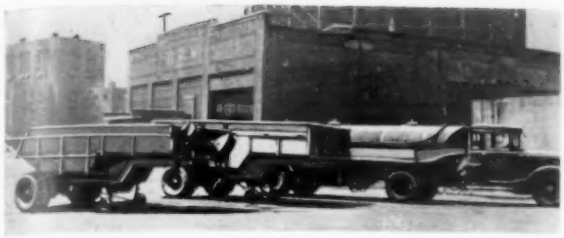
The 84-HD with Motor Spray Attachment is a one-man Kettle. All controls are in the operator's hands. For road repairs, this unit can cut the cost and speed up the work.

Road repairs such as holes, sub-grade failure, etc., need attention now and after the war. The 84-HD Kettle with hand spray or motor spray attachments can save costly repair work if used to keep road in fit condition.

BLACK TOP ROAD MAINTENANCE EQUIPMENT
LB
SINCE - 1900

LITTLEFORD

LITTLEFORD BROS., INC.
500 E. Pearl St., Cincinnati 2, Ohio



Shown here are a garbage trailer, refuse disposal unit and gasoline transport attached to the traction unit.

One Truck Can Serve Several Trailer Types

The city of Detroit uses truck-trailers manufactured by the Fruehauf Trailer Co., 10928 Harper Ave., Detroit, Mich., for many different purposes. This type of equipment represents the utmost in economy, since different types of trailers can be pulled by the same motor unit. In the daytime, for instance, the truck-tractors pull the garbage and refuse trailers, while at night they can be used with street flushers, and in the winter for snow-plowing. In this way fewer power units are needed, since the use of various trailer units make it possible to use the traction unit a maximum amount of time.

New Appointments at American Locomotive

The Executive Committee of the Board of Directors of the American Locomotive Co., 30 Church St., New York, N. Y., has announced the following appointments:

Perry T. Egbert is to be Vice-President in charge of Diesel Locomotive Sales. He has served the company in sales capacities since 1921 when he was appointed technical representative in the Far East. He returned to the United States in 1924.

William S. Morris is Vice-President in charge of Steam Locomotive and Divisional Sales. He was formerly Executive Vice-President of the Montreal Locomotive Works, Ltd., the company's Canadian subsidiary.

James D. Vaughan, former Executive Assistant to the President for seven years, has been named Comptroller.

Second Star for Foxboro's "E" Flag

In a letter appropriately dated July 4, Admiral C. C. Bloch, U.S.N. (Ret.), Chairman of the Navy Board for Production Awards, informed The Foxboro Co., Foxboro, Mass., of its second renewal of the Army-Navy "E" Award "for meritorious service on the production front." The Foxboro Co. manufactures industrial instruments for process measurement and control.

Admiral Bloch's letter reads, in part: "The men and women of your plant have continued to maintain the high standards they set when they were originally awarded the Army-Navy 'E' Flag. The second white star which this renewal adds to your Flag is the symbol of appreciation from our Armed Forces for your continued untiring effort and support, so necessary for Victory."

AWWA—New York Section Cancels Meeting

In view of the fact that Office of Defense Transportation has requested the curtailing of all meetings except those absolutely essential to the war effort on account of the crowded condition of trains, the Trustees of the New York Section of the American Water Works Association have voted to give up their Fall Meeting, which was scheduled for Poughkeepsie, N. Y., in October.

The regular Mid-Winter Luncheon Meeting will be held at the Pennsylvania Hotel, Georgian Room, on January 17, 1945. The New York Section, AWWA, is to act more or less as host to the Directors and Secretaries of the Parent Association, which is holding a meeting in New York at that time, Mr. R. K. Blanchard, Sec.-Treas., N. Y. Section, announces.

The American Society of Civil Engineers, which is also holding its annual meeting at that time, will be invited.

ELECTRICAL CORROSION CONTROL

Proven on hundreds of tanks from coast to coast, Rusta Restor—the cathodic (i. e. electrical) method maintains steel tanks in an "electro-negative" state that not only prevents rusting but gradually removes the effect of any earlier rusting.

Rusta Restor is modest in first cost and uses the current required by only one light bulb—at safe low voltages. Each installation engineered to the individual tank and water conditions. Electrode, or the more newly developed electrodeless type that avoids any fouling due to icing. Detailed description of interest to engineers and operating men sent on request. Write today.

RUSTA RESTOR

Division of

THE JOHNSTON & JENNINGS CO.

861 Addison Road Cleveland 14, Ohio

★ ★

Fresh, high quality broom fibres last longer

The longer mileage you obtain from fresh broom fibres means less time-taking refilling of the broom core and valuable man-hours put to an extra use. The use of fresh, high-quality fibres in your mechanical sweeper is sound economy these days.

AFRICAN BASS FIBRES

INDIA PALMYRAH STALKS

MOUNTAIN HICKORY SPLINTS

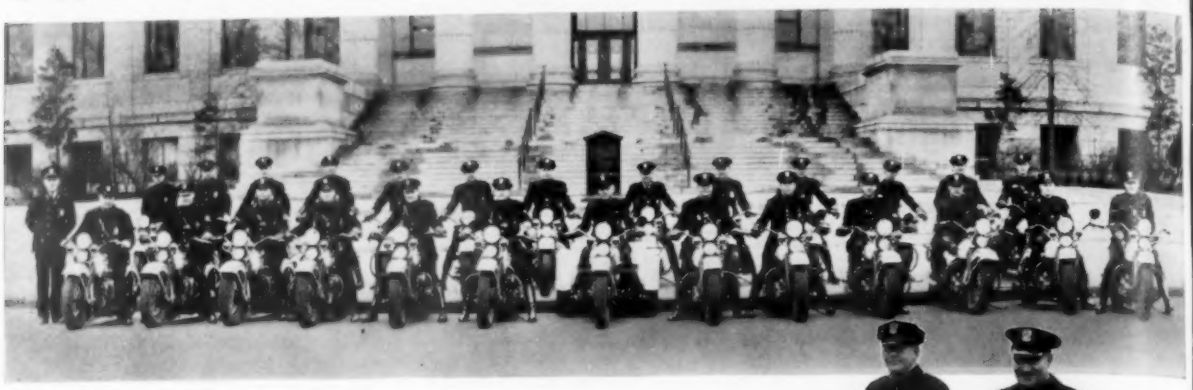
STEEL WIRE SWEEPER STALKS

We are able to service every need in all types and sizes. We would be happy to receive your request for samples and quotations.

The OTTO GERDAU CO.

82 Wall Street, New York 5, N. Y.

THE PRIDE OF MINNEAPOLIS!



Above are 26 of the 28 Harley-Davidson Police Motorcycles with their Officers. At right, a half million miles of motorcycling, are represented by Robert Bullock (left) in his 21st year of service with the Minneapolis Motorcycle Squadron and Sergeant Clair Tripp in his 20th year.

TWENTY-EIGHT Harley-Davidsons help this great midwestern city maintain an outstanding safety record. Recognizing the vital need of motorcycles in dealing with today's police problems, the War Production Board recently granted permission for the addition of five new Harley-Davidsons to bring this "task force" to its present strength.

Like thousands of other American cities, Minneapolis knows from experience that motorcycle-equipped police can handle a greater range of traffic control and law enforcement work more efficiently *than by any other method.* Thus police manpower is extended to cover more territory —concentrate quickly at scenes of trouble —provide better protection of vital war plants—also maintain closer contact with the public and command its respect through evidence of uniformed authority.

HARLEY-DAVIDSON MOTOR CO., Milwaukee 1, Wisconsin

Harley-Davidson Motorcycles are available now for vital police needs. See your dealer.

★ ON AMERICA'S FRONT LINES OF ACTION ★

Kallman Appointed at Barber Asphalt

William L. Kallman was recently appointed General Manager of the Sales Department of Barber Asphalt Corp., Barber, N. J.

BACHRACH

W. L. Kallman

Mr. Kallman started his business career when he became associated with The Texas Co. after the first World War. He served in various positions in the Sales Department from stenographer to salesman to Eastern Sales Manager. For the past two years he has been on loan to the Petroleum Industry Committee in the New York District as Executive Secretary to the Supplies and Distribution Committee.

Barber Asphalt at present is engaged in entirely new activities for war purposes but expects to return to its asphalt and petroleum business after the war. One of these activities is the manufacture of LIC vessels (Landing Craft Infantry) for the Navy. The company also handles storage and delivery of petroleum products for the Army and Navy and the operation of vessels for the Maritime Commission. It expects to play an increasingly important part in the manufacture and distribution of petroleum supplies in the post-war period.

Clarence Frazier New Mgr. of Peerless Pump Division

The Peerless Pump Division Food Machinery Corp., 301 W. Ave. 26, Los Angeles 31, Calif., announces that Clarence Frazier has been appointed to succeed Vernon Edler as Vice-President and Manager of the Peerless Pump Division with headquarters in Los Angeles. Mr. Frazier joined the corporation in 1941 as assistant to the President.

The role played by Peerless Pump in the war effort has been an important one. When pumps were needed by the Government to raise the damaged ships sunk by the Japanese in Pearl Harbor, the division shipped a large number of pumps on a 36-hour notice. More recent developments have been the submersible pump for emergency duty on shipboard, the gasoline transfer and refueling pumps used on tankers and, air fields, and the Hi-Lift pump used by Army and Marine Corps for advance base water supply.

One of the most important contributions to the war effort made by this corporation is the "Water Buffalo" amphibious tanks, the first models of which were designed and built by Peerless Engineers.

Saves—

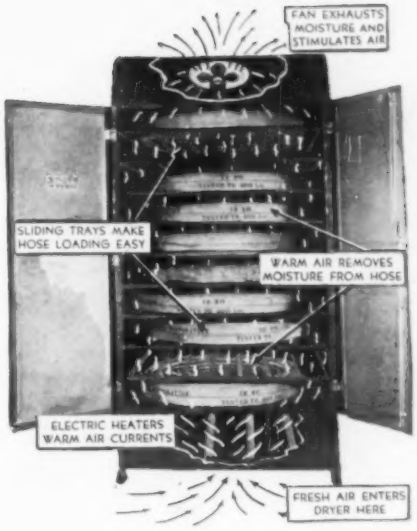
hose—
prevents mildew and rot; reduces hose stretch

drying time—
easier to use; air-conditions as it dries; 25-50 times faster than tower or rack

space—
eliminates towers; improves building design

with the

CIRCUL-AIR
FIRE HOSE DRYER


FAN EXHAUSTS MOISTURE AND STIMULATES AIR
SLIDING TRAYS MAKE HOSE LOADING EASY
WARM AIR REMOVES MOISTURE FROM HOSE
ELECTRIC HEATERS WARM AIR CURRENTS
FRESH AIR ENTERS DRYER HERE

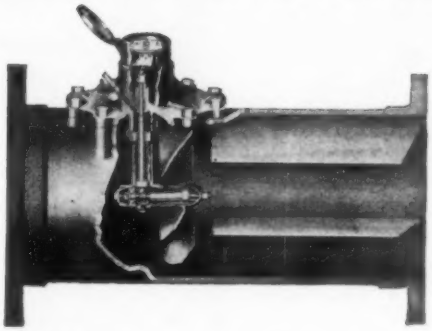
Keeps ALL of your hose ready for Service ALL of the time! Electrically-operated, the CIRCUL-AIR dries hose in a very few hours. By quick drying, it lessens the need for a large hose reserve of "reloads." Easy to operate, efficient and compact, CIRCUL-AIR will increase your efficiency and conserve your hose.

Immediate delivery from stock. Write today to

THE CIRCUL-AIR CORP. **6339 East Palmer Ave. Detroit 11, Michigan**

SPARLING MAIN-LINE METERS

Used in
WATERWORKS
SEWERAGE
RAILROADS
PAPER MILLS
MINES
IRRIGATED LANDS
CAMPS
OILFIELDS
PIPELINES
TANKERS
REFINERIES



THE present trend in main-line metering is towards the propeller-type meter. We've pioneered in Direct-Action metering since 1919 and experience has proved its dependability for Consistent Accuracy and Long Service. **Bulletin 308 comes on request.**

R. W. SPARLING *Manufacturer of water Measuring Equipment*

LOS ANGELES 54.....Box 3277 Terminal Annex
CHICAGO 16.....3104 South Michigan Ave.
622 Broadway.....CINCINNATI 2
101 Park Avenue.....NEW YORK 17
BOSTON 8.....6 Beacon Street

Plan Adequate

FIRE ALARM BOX DISTRIBUTION

FOR PROTECTION OF LIFE AND PROPERTY

DELAYED ALARMS

constitute that most potent factor in your annual fire loss

INADEQUATE BOX DISTRIBUTION

the prime cause of delayed alarms exists when a citizen must traverse a greater distance to reach a box than the recognized standard a good box distribution provides.

Pedestals with indicating lights promote visibility and contribute to speed in sending alarms.

The Gamewell Three-Fold Fire Alarm Box, Non-interfering and successive — reliably transmits alarms though circuit is broken or otherwise disordered.

THE STANDARD

not more than 300 feet in congested high-value districts, 500 feet in closely-built residential districts and 1000 feet in sparsely-settled districts.

•

IF YOUR CITY

is deficient in this respect, why not make adequate provision in your Post-War Plans?

•

THE GAMEWELL COMPANY

NEWTON UPPER FALLS **MASSACHUSETTS**

Pomona Pump Offices Move to Main Hendy Plant

The Pomona Pump Division of the Joshua Hendy Iron Works announces that its chief administrative offices have been moved to Sunnyvale, Calif., for consolidation with the general administrative department of the company. Affected by the change are the sales, engineering, purchasing and accounting departments.

Wallace Johnson
General Sales Manager

Among personnel moving their offices north are Arnold Brown, Sales Manager; A. W. Moore, Advertising Manager, and Ralph Linderman, Export Manager.

All manufacturing activities will continue to be carried on in the southern California plants at Pomona and Torrance with Charles L. Barrett as Plant Manager of both.

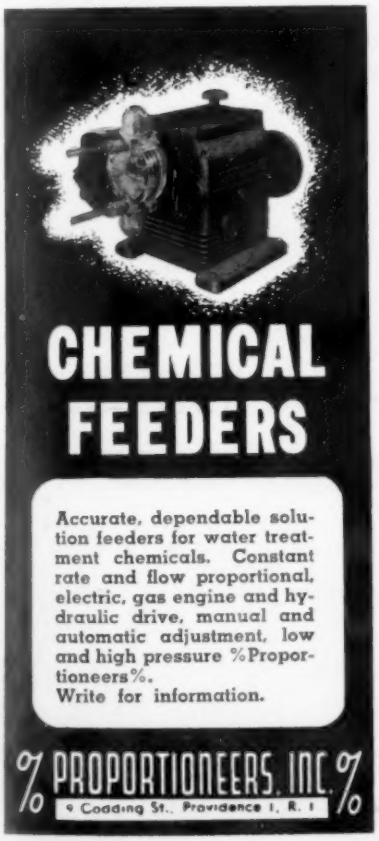
Wallace Johnson was recently appointed General Sales Manager of the Joshua Hendy Iron Works at Sunnyvale, Calif. He joined the Hendy organization in 1942 and worked for several months at the Crocker-Wheeler Division at Ampere, N. J., in the capacity of assistant to Charles E. Moore, President. He spent several months as an administrative head at Sunnyvale, and since June 1943 has been Assistant General Manager of the Pomona Pump Division at Pomona, Calif. The Joshua Hendy Iron Works have issued a new bulletin describing and illustrating a newly designed Diesel engine for stationary power purposes, combining many features never before embodied in a single engine. Built for heavy duty, the engine has welded steel construction, unit-type fuel pumps and injectors, and overhead cam shaft, with all parts enclosed but readily accessible.

H. Edward Manville, Sr.

H. Edward Manville, Sr., former Chairman of the Board of Directors of Johns-Manville Corp., 22 E. 40th St., New York 16, N. Y., died on June 27, 1944.

One of America's best known industrialists, Mr. Manville had 50 years of service when he severed his connections August 21, 1939, because of ill health. He had served the company in many capacities, including the Presidency and Chairmanship of the Board of Directors.

His only son, Lt. H. Edward Manville, Jr., was elected a Director of Johns-Manville Corp. on October 21, 1940.


CHEMICAL
FEEDERS
Accurate, dependable solution feeders for water treatment chemicals. Constant rate and flow proportional, electric, gas engine and hydraulic drive, manual and automatic adjustment, low and high pressure %Proportioneers%.
Write for information.
% PROPORTIONEERS, INC. %
9 Codding St., Providence 1, R. I.

DEPENDABILITY
24 HOURS A DAY
JOHNSON Right-Angle
PUMP DRIVE
★ SEWAGE ★ WATER WORKS ★
FIRE FIGHTING ★ FLOOD CONTROL
The Johnson Right-Angle Gear Drive is used as a "connecting unit" between the pump and the power unit. Illustration shows a combination application. These drives are manufactured in a variety of types and sizes, each designed to meet the specifications of a wide range of applications—Sewage Disposal; Water Supply; Fire Fighting; Flood Control; etc.
★ EFFICIENT
★ ECONOMICAL
★ FULLY ENCLOSED
★ DEPENDABLE
★ COMPACT
★ LONG LIFE
The Johnson Right-Angle Gear Drive is sold through Pump and Engine Manufacturers—their local representative will explain the many advantages of this drive which is used by scores of municipalities. Write for Catalog No. 12.
JOHNSON GEAR
& MANUFACTURING CO., LTD.
MAIN OFFICE AND WORKS: BERKELEY, CALIFORNIA

the Big Beam

Turns Darkness into Daylight

THIS PORTABLE ELECTRIC SEARCHLIGHT

Has Many Uses in a Municipality:

FIRE CHIEFS use it for entering dark buildings, rooms or basements, also for lighting fronts of buildings.

POLICE CHIEFS find it useful in dark parkways and alleys.

WATER DEPARTMENTS use it on emergency night jobs—such as repairing a large broken main.

Big Beam provides a brilliant beam giving daylight visibility for any night job or emergency—projecting the beam for a distance in excess of 2500 feet.

Or—an interchangeable lens will diffuse the same volume of light over a wider area.

By use of the Big Beam "Hold-Down," the lamp can be fastened to any flat surface.

The lamp head can be turned in any direction, and it stays adjusted.

The Big Beam is portable, powerful, dependable, sturdy, shockproof.

Sold through wholesalers.

Send for this free folder.

U-C-LITE MFG. CO.
Department AC
11 East Hubbard St., Chicago 11, Ill.

Gentlemen: Please send me without cost your circular matter explaining the features of the Big Beam.

Name _____

Address _____

City _____ State _____

Gate Valve Operation

AS IT WAS

TODAY

1. It may be mounted on any truck.

2. Has safety device to protect valve against damage.

3. Used for valve operator and provides power for pipe cutting and tapping machines.

4. Saves 80% of manpower and time in gate operation.

5. Makes tough valves work easy.

PAYNE DEAN & CO., LACONIA, N. H.

Today's Best Bet—

WAR BONDS

FEATHER the nests of our multiplying warbirds—or there will be no nests left to any of us. Buy Bonds.

CONSERVE, stimulate, protect—all in one—by buying Bonds.

Filby Ends Term as Field Director on Water and Sewage Committee

The services of E. L. Filby as Field Director for the Committee on Water and Sewage Works Development were terminated on July 1. This leaves him free to return to his regular activities as Principal Assistant Engineer with Black & Veatch, Consulting Engineers, 4706 Broadway, Kansas City 2, Mo.

It was understood and agreed at the start of the committee that field promotional work would begin September 1, 1943, and last approximately one year. The committee will continue to function in an advisory manner in connection with Blueprint Now post-war plans for water and sewage work.

President Retires from Busch-Sulzer Bros.

Edward B. Pollister, President of the Busch-Sulzer Bros., Diesel Engine Co., St. Louis, Mo., has retired from the company in order to take a much needed rest.

Norris H. Schwenk succeeds him as President. Mr. Schwenk's record of successful management of large businesses includes connections with the William Cramp & Sons Ship & Engine Building Co., the Pelton Waterwheel Co., the De La Vergne Engine Co., the Baldwin Locomotive Works, and various heavy machinery businesses.

Blueprint Now!

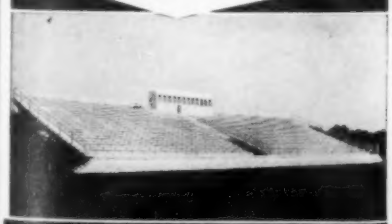
. . . For Prompt Action When The War is Won

PITTSBURGH

·DES MOINES

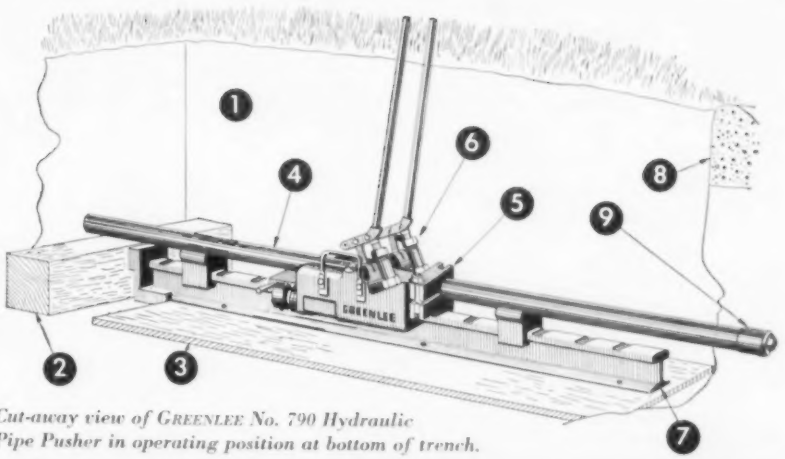
STEEL DECK GRANDSTANDS

Let Pittsburgh-Des Moines engineers work with you in planning your future grandstand requirements *now*. Be ready for construction—ahead of the post-war rush!



PITTSBURGH · DES MOINES STEEL COMPANY

Pittsburgh, Pa. . . . 3412 Neville Island
Des Moines, Ia. . . . 913 Tuttle Street



Cut-away view of GREENLEE No. 790 Hydraulic Pipe Pusher in operating position at bottom of trench.

How One Man Can Push Pipe in 9 EASY STEPS

Here's the quick, simple, low-cost way to install pipe underground for gas, water, sewer . . . conduit for electricity, telephone cable . . . with a GREENLEE Hydraulic Pipe Pusher. Avoids extensive trenching . . . ends damage to pavement and lawns. One man can harness powerful hydraulic pressure to force pipe through ground in these 9 easy steps:

1 A short trench is dug to accommodate the pusher and one section of the pipe to be pushed.

2 Blocking timber is placed in cross trench at back of pusher.

3 Pusher rests on 2" x 8" plank to which steel base is bolted.

4 Length of pipe to be pushed is placed in position on the two pipe supports.

5 Hinged pipe clamp is fastened to pipe by setting a single nut. Off-center, grooved bore of clamp provides leverage which will hold against maximum power. (No. 795 pushes pipe from end, without the use of pipe clamp.)

6 Hydraulic pressure in the power unit is developed by pumping the handles. Power unit has safety valve for releasing pressure in excess of capacity.

7 Hydraulic pressure moves the power unit forward on the notched steel base, against the pipe clamp, thus forcing pipe through the ground. When unit reaches end of base it is moved back to the starting position and pipe clamp is reset. (Pipe also can be pulled by reversing power unit on base and blocking opposite end.)

8 Pipe is pushed under paved street or other obstacle.

9 Pipe up to 6-inch usually is pushed closed, using reducers. Larger sizes are pushed open and soil is removed from pipe with a scoop and sewer rods.

Get orders in now for prompt delivery, or include "GREENLEES" in your next year's budget. Experience has shown that a GREENLEE pays for itself the first few times it is used—in labor savings alone.

Greenlee Tool Co., *Division of Greenlee Bros. & Co.*
2028 Columbia Avenue, Rockford, Illinois

Free Booklet S-117 gives all the facts about GREENLEE Pipe Pushers. Write today for your copy.

Get Ready with Greenlee!

REGISTERED TOOLS

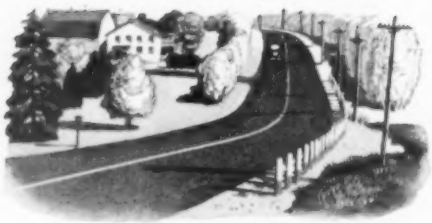
GREENLEE

FOR THE CRAFTSMAN

Quiz for road builders

Question: *How many miles of main trunk highways in your district?* _____ *What was the average cost per mile?* _____

There are 331,624 miles of main trunk highways in the U. S. Federal and State highway systems. The cost of building inter-regional traffic arteries ranges upward to $175,000 and more for a mile of super-highway.



Question: *How many miles of paved secondary roads in your district?* _____ *What was the cost per mile?* _____

There are 1,055,000 miles of surfaced secondary roads in the United States. Of this total, less than one third is actually *paved* mileage—yet adequate bituminous paving can be laid for as little as $5,000 per mile.

Question: *How many miles of unpaved roads in your district?* _____ *What mileage of post-war paving is planned?* _____

There are 1,547,000 miles of unpaved, unsurfaced county and local roads in the U. S. network. More than half of the entire mileage is still in the mud—yet from 10 to 40 miles of these roads can be paved for the cost of a single mile of main trunk highway.

So what?

Simply this: We believe that the answers to these questions are the best possible advertisement we could write on the use of Barrett Tarvia in your post-war plans for a well integrated highway system serving the interests of *everybody* in your community.

For there is a right grade of Tarvia and a right Tarvia method for almost every type of highway construction. Tarvia roads are built largely with local labor and local materials. Tarvia provides maximum mileage of clean, skid-safe pavement for the people in your community, county or state.

Why not call in the Tarvia field man?

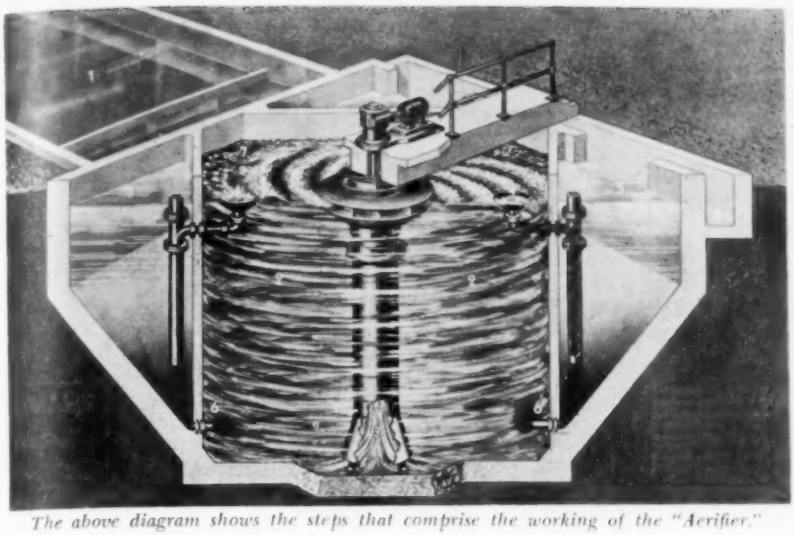
THE BARRETT DIVISION
ALLIED CHEMICAL & DYE CORPORATION

40 RECTOR STREET, NEW YORK 6, N. Y.

New York . . Chicago . . Birmingham . . St. Louis . . Detroit . . Philadelphia . . Boston
Providence . . Rochester . . Minneapolis . . Cleveland . . Columbus . . Toledo . . Youngstown
Syracuse . . Buffalo . . Cincinnati . . Bethlehem . . Portland, Me. . . Bangor, Me.
Norwood, N. Y. . . Cromwell, Conn. . . Norwich, Conn. . . Savannah, Ga. . . Norfolk, Va.
In Canada: THE BARRETT COMPANY, LTD.: Montreal, Toronto, Winnipeg, Vancouver

Barrett Tarvia*

*Trade-mark Reg. U. S. Pat. Off.



The above diagram shows the steps that comprise the working of the "Aerifier."

"Aerifier" for Activated Sludge Plant

If your community needs require a high degree of sewage purification, the Yeomans "Aerifier" for the activated sludge process will interest you. Manufactured by Yeomans Brothers Co., 1433 North Dayton St., Chicago 22, Ill., it makes available a proven means of mechanical aeration and final clarification within a single concrete structure with its resultant saving in installation and maintenance costs.

The "Aerifier" is essentially composed of a Yeomans "Spiraeflo" mechanical aerator, adjustable loading funnels, angular corner clarifier compartments, automatic loading funnels to the clarifier compartments, an automatic return for activated sludge to the aeration tank, and an automatic return of excess activated sludge to the primary tank, all in a single concrete structure.

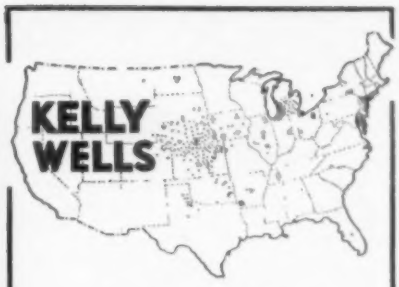
In order to provide complete and flexible control in the hands of the operator and permit him to adjust speed of the aeration cone to changing conditions and load, aerator drives are offered with variable speed control within a range of approximately 30 percent above or below normal speed.

Bulletin 6650 is being offered by Yeomans, giving more details on the equipment and operation of this process.

Karns Promoted at Westinghouse

Edgar B. Karns was recently appointed Manager of the Street and Aviation Lighting Application Section, according to an announcement by W. F. White, Manager of the Lighting Division of the Westinghouse Electric & Manufacturing Co., 1216 W. 58th St., Cleveland, Ohio.

Mr. Karns is prominent in the design of night-lighted baseball parks, airports and public expositions. Though he joined Westinghouse in 1928, it wasn't until 1936 that he was transferred to the Cleveland Lighting Division as a member of the floodlight engineering staff. In this capacity he helped design the lighting for the Great Lakes Exposition, New York World's Fair. In 1939 he was named supervisor of Street and Aviation Lighting Application and subsequently engineered the lighting of the Washington National Airport and numerous U. S. Naval Air bases. Since the war he has worked with Army and Navy officials on dim-out and other wartime problems. Before joining Westinghouse Mr. Karns was with Station WLW in Cincinnati.



ALL OVER THE MAP!

For 25 years Kelly concrete cased wells have stood the test of time. We have several thousand now in service, covering a territory of 33 states and parts of Canada.

Kelly concrete cased wells are especially adapted for developing large water supplies from sand and gravel formations.

We Guarantee our wells to develop all available water, sand free, to their full capacity.

KELLY WELL CO., INC.
Grand Island, Neb.

Belt's
BETTER GRASSES

GERMINATION TRINITY BRAND PURITY QUALITY

TRIPLE LABORATORY TESTED FOR Better Lawns

THE BELT SEED COMPANY INC. OF BALTIMORE

MONITOR COVERS

For large water meter pits Ford MONITOR Covers are ideal. They are made for 24", 30" and 36" tile, have a 20" lid opening and are 7" deep. Inner lid optional. All sizes have the Lifter Worm Lock. Send for catalog and learn more about good water meter installations.

FORD
Meter Box Co.
WABASH, INDIANA

Here's FLEXIBLE'S Answer to Your Sand Removal Problem

Many cities are having splendid success in removing sand, gravel, mud and rocks with the FLEXIBLE Sand Cup and Auger illustrated at the left. When properly used, this little tool will do the job quickly and economically.

If you do not already have it, ask for a copy of the latest FLEXIBLE catalog which contains complete instructions on the use of this time and money saving tool.

FLEXIBLE has the largest plant in the United States devoted exclusively to the manufacture of pipe-cleaning tools.

615 Pickwick Bldg. Kansas City 6, Mo.
1624 Harmon Place Minneapolis 3, Minn.
P. O. Box 694 Gulfport, Miss.
41 Greenway St. Hamden, Conn.

FLEXIBLE SEWER-ROD EQUIPMENT COMPANY
9059 Venice Boulevard Los Angeles 34, California

401 Broadway New York 13, N.Y.
2645 E. 75th St. Chicago 49, Ill.
P. O. Box 694 Pittsburgh, Pa.
P. O. Box 165 Atlanta, Georgia

CONNERY'S HEATING KETTLE
Style B-2

reduces street maintenance costs by heating tar and asphalt with SPEED AND SAFETY.

This oil burning kettle is equipped with steel roller-bearing wheels. Sizes: 30, 80, 110 and 165 gallons.

Write for catalog showing our full line of tar and asphalt heating kettles, spraying attachments, pouring pots, etc.

Connery Construction Co. 2nd & Luzerne Streets, Philadelphia 40, Pa.

LEADITE

FOR JOINTING CAST-IRON WATER MAINS
Melted and Poured *No Large Bell-holes to Dig*
Saves at Least 75%

Leadite is shipped in powder form, packed in sacks of 100 lbs. net each
Leadite tested and used for over 40 years • Leadite joints improve with age

Be sure it is Leadite and accept no imitations

THE LEADITE COMPANY
Girard Trust Co. Bldg., Philadelphia 2, Pa.

South Bend
GUTTER-SNIPE
PICK-UP STREET SWEEPERS

STREET FLUSHERS
STREET SPRINKLERS
BITUMINOUS DISTRIBUTORS
BITUMINOUS MAINTENANCE UNITS

Since 1908

MUNICIPAL SUPPLY COMPANY - SOUTH BEND 23, INDIANA

Holding the "E" flag—Left to right: Lt. Col. Royal H. Place, Inf.; Frank S. Main, President, Aurora Pump Co.; Capt. Robert Henderson, U.S.N.

"E" Award to Aurora Pump Co.

The employees and management of the Aurora Pump Co., Aurora, Ill., were awarded the Army-Navy "E" Award for the quantity and quality of their war production by Captain Robert Henderson, U.S.N., of the Office of the Chief of Naval Operations, Washington, D. C., at ceremonies held at the company plant on June 26.

Frank S. Main, President of the company, accepted the "E" award. Lt. Col. Royal H. Place, Executive Officer, District 23, Sixth Service Command, Chicago, Ill., presented token "E" emblems to the employees. Mr. Michael Haas then made the address of acceptance.

The Aurora Pump Co., manufacturers of Aurora centrifugal pumps and Apco turbine-type pumps, has established a splendid record of accomplishment in supplying pumping equipment for virtually all branches of the service, and chiefly for the Navy Department.

New Dealer for Buckeye Traction Ditcher

The Buckeye Traction Ditcher Co., Findlay, Ohio, announces the appointment of The George B. Whitehead Co., 2 Mechanic St., Buffalo, N. Y., as dealer for its organization.

The dealer will handle the complete Buckeye line of ditchers, shovels, spreaders, and finegraders in more than 20 upstate counties.

Personnel Changes at General Paint

Milton M. Bowen has been appointed Vice-President of the General Paint Corp., and Manager of the Eastern Division in charge of pipe wrapping, with offices at 3091 Mayfield Rd., Cleveland 18, Ohio. He was previously Special Representative for Hill Hubbell and Co. Div.

Jack Morain, formerly General Superintendent, has been promoted to Production Manager. Affiliated with the company since 1926 he is responsible for a great deal of the design and development of its equipment. Miss Frances Tuhey will be in charge of the Cleveland office in her capacity as Assistant to the Division Manager.

1 Specially designed doors for easy opening.

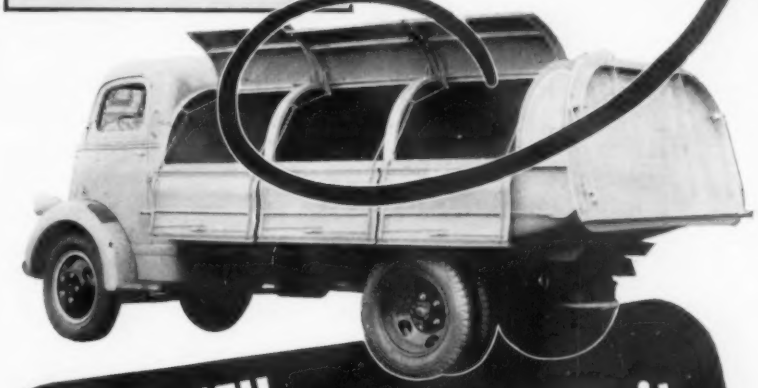
2 Low height for easy loading.

3 Fully enclosed to prevent "scattering."

4 "Streamlined" to add to city's prestige.

Counter-balanced, easy-opening doors . . .

Simply turn the handle, pull down the bottom door and the top one raises through a carefully balanced chain and lever arrangement. It's simple and requires but little effort.



This HEIL Garbage Disposal Unit has the Quality Features

—that make it a modern asset for your city—an easy-working unit for your crews

Fully enclosed — streamlined — sanitary, Heil Garbage Disposal Units add to the prestige of your city. Because they are built to the rigid standards of Heil engineers, they stay on the job dependably, and assure you of minimum "time-out" for maintenance and repairs. Crews like the low loading height and easy-opening doors. When you specify Heil Garbage Disposal Units, your recommendation is backed by many years of experience in quality fabrication and efficient design.

Write for bulletins.

THE HEIL CO.

GENERAL OFFICES • MILWAUKEE 1, WISCONSIN

IMPORTANT

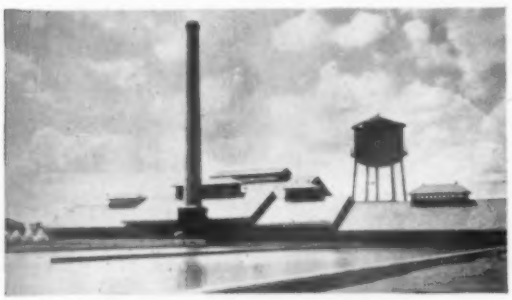
Public Health must be maintained!

The necessity of maintaining public health in war time is self-evident. Municipal officers in charge of water purification and sewage disposal have a vital responsibility in guarding the nation's health which should not be underestimated as a contributing factor to final victory.

However, the problems of maintaining public health are *becoming increasingly difficult in the face of material shortages and transportation handicaps.* General's "Alum" will help do the job right. But to ease the situation in regard to *Aluminum Sulfate* as much as possible, won't you place your orders as far ahead as you can so that we may schedule our production on an efficient basis.

Why Most American Cities Prefer General Chemical Aluminum Sulfate

General Chemical Aluminum Sulfate is an especially developed "Alum." High quality and constant uniformity have given it a *time-tested* reputation among water works engineers and sewage plant operators, who know its reliability through experience.



★ FOR WATER WORKS

1. Makes water crystal clear.
2. Longer filter runs are obtainable.
3. Is economical, used properly will conserve chlorine supplies . . . because it does not require oxidation to make it effective.
4. Superior in tests against other coagulants.
5. High in quality, its constant uniformity can be counted upon.

★ FOR SEWAGE PLANTS

1. Clean, easy to handle and economical to use.
2. Simple application, requires only low cost feeding apparatus and minimum attention.
3. Clear, colorless effluents are possible.
4. Precipitated sludge digests readily.
5. Treated digested sludge dries quickly, without odor.

GENERAL CHEMICAL COMPANY

GENERAL CHEMICAL COMPANY

40 RECTOR STREET, NEW YORK 6, N. Y.

Technical Service Offices: Atlanta • Baltimore • Boston • Bridgeport (Conn.) • Buffalo • Charlotte (N.C.) Chicago • Cleveland • Denver • Detroit • Houston • Kansas City • Milwaukee • Minneapolis New York • Philadelphia • Pittsburgh • Providence (R. I.) • St. Louis • Utica (N. Y.)

Pacific Coast Technical Service Offices:
Los Angeles • San Francisco • Seattle, Wenatchee and Yakima (Wash.)

In Canada: The Nichols Chemical Co., Ltd. • Montreal • Toronto • Vancouver

This pump is so light in weight that it is possible to pick it up with a suction and discharge hose attached, and carry it from one job to another.

Chain Belt Introduces Light-Weight Pump

Municipalities having need for a pump that will move water and still be light and compact, allowing easy portability, will be interested in the "Rex Junior" manufactured by the Chain Belt Co., Milwaukee 4, Wis. This pump is 3,000 gph, weighs only 62 pounds, and measures 15¼ inches long by 11¾ inches wide by 15¾ inches high. One man can easily move this pump and it could be carried from one job to another in the trunk compartment of an automobile.

The company asserts that the Junior embodies all the engineering features of their standard self-priming centrifugal pumps, including the famous patented Rex "peeler," a device that reputedly peels the air from the whirling impeller and speeds the prime. It has a large semi-steel recirculating water chamber with an automatic control valve that completely cuts off all recirculation when pumping.

It is powered by a dependable, easy starting single cylinder, air cooled engine of one hp. An automatic governor on the engine speeds up the motor when the pump catches its prime and starts to lift water. This eliminates the possibility of putting too much strain on the power unit at low speeds.

Fire Trucks for Municipal Use

The Ward LaFrance Truck Division, Great American Industries, Inc., Elmira, N. Y., has been giving second place to the production of fire apparatus for civilian use. However, if your need is urgent the company will supply you with information on priority requirements. In any event, the company will furnish you with engineering plans to fit your needs and if priorities cannot be obtained will schedule your order for the earliest possible delivery.

The company has been furnishing specialized motor trucks for ordnance work that are now serving all around the world. One of their products, their Heavy Wrecker designed for power and traction, has the job of getting other vehicles out of trouble. It hauls disabled tanks away from the heat of battle, pulls loaded trucks out of jungle muck, fishes half-tracks out of swollen rivers and trundles crashed bombers off to repair shops.

Change in Canadian Representatives for Caterpillar

The firm of Kramer-Church Tractor Co., Ltd., has been appointed to represent Caterpillar Tractor Co., Peoria, Ill., in the Saskatchewan territory, and will make its headquarters in Regina.

Both members of the new concern have been in the machinery business for some time. Clarence H. Church represented "Caterpillar" in Canada for a number of years, first as a member of the credit department and later as district representative for the sales department. For the past year he has been Northern Division Manager of the Union Tractor & Harvester Co. at Edmonton, Alberta. R. A. Kramer, the other partner, was formerly in the contracting business.

Holophane Receives Army-Navy "E"

The employees of the Holophane Co., Inc., 342 Madison Ave., New York 17, N. Y., were the recipients on July 18 of the coveted Army-Navy "E" Award. This was presented to them for their outstanding production of materials for the war effort.

Locate Underground Leaks
Without Digging With A
GLOBE GEOPHONE!
(Registered U. S. Patent Office)

Simple to operate. Anyone can use it successfully. Does not require engineering skill or any technical knowledge. A mechanical type instrument. No fragile parts to be serviced and replaced.

The GEOPHONE works on the principle of the seismograph. Placed in contact with the earth, it accurately detects, by sound, the position of leaks in underground water or steam pipes. Leaks are too costly to be ignored—a pinpoint size leak wastes 65,000 gals. of water annually! A GEOPHONE saves the cost of locating leaks—saves the cost of surveys, excavating, replacing. A big-paying investment for water, sewerage and Public Works Departments—for any plant with underground water or steam pipes.

Outfit complete with two GEOPHONES, connecting tubes, earphones, in heavy leather carrying case with shoulder straps ---------- **$75**

Write at once to
Globe Phone Mfg. Corp. Dept. H Reading, Mass.

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TANKS
TOWERS
STANDPIPES
STACKS
KIERS
KETTLES
VATS
AIR RECEIVERS
WELDED STEEL PIPE
DIGESTERS
BOILERS
BINS
FABRICATED FRAMEWORK

MARITIME "M" MERIT AWARD

Tank Builders for over 80 Years

R. D. COLE MFG. CO.
Established 1854
NEWNAN, GEORGIA

McWane PRECALKED Pipe

—no skilled labor
—no lead melting
—no slow motion

The pure lead and redwood wedges are already placed in the pipe bells. All you do is "socket the spigot and calk" . . . Quick! easy! permanent! a BIG saving in every installation. Sizes 2" thru 12". PROMPT SHIPMENTS.

McWANE CAST IRON PIPE CO.
BIRMINGHAM, ALA.

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NEW CONSTRUCTION—REPAIRS

PRESTRESSED TANKS | STEEL ENCASEMENTS
RESERVOIR LINING | DAM REPAIRS
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REPAIRS TO ALL TYPES OF MASONRY

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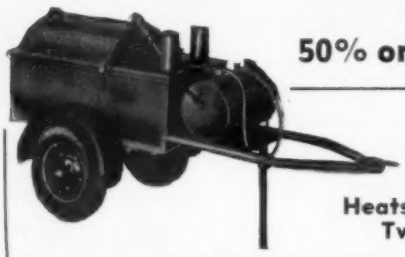


Save 50% on Time & Fuel

The Aeroil HEET-MASTER
Heats Tar & Asphalt Twice As Fast

The "HEET MASTER" will produce as much "hot stuff" as two ordinary type oil-burning kettles of the same capacity. Now obtainable on pneumatics. (Also mud guards at slight extra cost.) Send for FREE Bulletin No. 194AC. For Cut-Back and Emulsion Sprayers, Bulletin No. 190A. Oil-burning Lead and Pipe Compound Melting Furnaces, Bulletin No. 232AC. Portable Oil Burner & Torch Outfits, Bulletin 174A. Asphalt Paving Tools & Accessories, Bulletin 312A. Asphalt Paving Tool Heaters and Asphalt Pavement Heaters, Leaflet 171A.

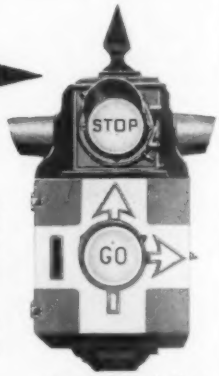
Aeroil Burner Co., Inc., West New York, N. J.
CHICAGO 16 SAN FRANCISCO 7 DALLAS 1

AROWAY

TRAFFIC SIGNALS FOR POST-WAR DEMANDS

Aroway will lead the way in post-war Traffic Signals because they are the simplest, clearest and most practical to avoid traffic snarls and costly accidents. The great hazards of traffic demand more than the old-fashioned Stop and Go Signals. The modern Aroway Signal is all-encompassing. It eliminates auxiliary signs like No Left Turn; No U Turn; Straight Ahead, etc. Aroway Signals are complete at one focal point: *at the Stop and Go lights* and even those who cannot read or discern color will see the open and closed traffic lanes at a glance.

The demand for Aroway Traffic Signals for post-war demand will be tremendous. So get preliminary data now. Write to:



Aroway Signal above directs traffic Straight Ahead and Right Turn. The Red Bar indicates No Left Turn.

AROWAY TRAFFIC SIGNALS, INC., JOHNSON CITY, TENNESSEE

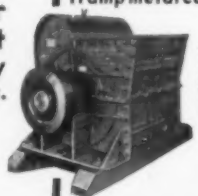
GRUENDLER CRAFTSMANSHIP
Serving Industry over 50 Years

A remarkable Shredder for your Sewage Plant
Showing the way to Sanitary Engineers in many U. S. cities.

Write for DATA and Illustrated BULLETIN No. 0491 on Garbage and Sewage Disposal Equipment

GRUENDLER
CRUSHER and PULVERIZER CO.
2913-17 North Market St., ST. LOUIS (6), MO.

Non-Clog SHREDDER with Tramp metal catcher



Types & Sizes for Your Needs

Proved features . . . enables complete disintegration of Rag Stock, Garbage, Floatables and Fibrous materials without choke down, so as to pass screen bar—Designed with Spray Flushers, Tramp Iron Catchers and Non Clog Grate Bars.

CENTRIFUGAL PUMPS
FIRE HYDRANTS
A.W.W.A. GATE VALVES

Manistee single-stage, double-suction pumps, 75-20,000 g.p.m. capacity

Manistee multi-stage pumps, 50-3500 g.p.m. capacity with heads up to 1600 feet

Write for Bulletins

MANISTEE IRON WORKS CO.
MANISTEE MICHIGAN

Showing the demonstration of the Mack 155 crash truck given at the U. S. Army's "Weapons of War" exhibit. Under cover of fog, two asbestos-clad Army engineers are rescuing the pilot from the barely visible P-40 following a simulated crash landing on a jungle airstrip.

Horine Returns to Mack to Head Sales Promotion

C. T. Rhuf, President of Mack Trucks, Inc., has announced the return of M. C. Horine as Mack Sales Promotion Manager following his resignation from the War Production Board. For the past year Mr. Horine had been research consultant to the director of the Automotive Division of the WPB with offices in Washington.

During the period from February 1942 to June 1943, prior to his WPB appointment, he was engineering consultant to the Quartermaster General, continuing to serve the Chief of Ordnance in a similar capacity after motor transport was transferred from the Quartermaster Corps to the Ordnance Dept. Mr. Horine joined the Mack organization as an engineer in 1918 after serving as a second lieutenant during the first World War.

His connection with the automotive industry began in 1907 as a shop boy for a builder of marine engines and as a Dorris car agent in Los Angeles.

Mack also announced that the U. S. Army included in its "Weapons of War" exhibit, now touring the United States, a spectacular demonstration of the Mack 155 crash truck. Mack crash trucks are being used in landing fields at home and abroad, and production of this latest type of fire fighting apparatus for the Fire Prevention Section of the Army Engineers Corps continues in high gear.

Mimeograph Stencil Sheet Facilities Contract Termination

A special mimeograph stencil sheet for use by both prime and sub-contractors to produce the 20 or more copies of the War Department Inventory Schedules usually required for Contract Termination procedures is announced by A. B. Dick Co., 720 Jackson Blvd., Chicago 6, Ill.

This sheet may be obtained with a facsimile of any of the three War Department Inventory Schedule forms placed on its surface. The form serves as an exact guide for the typist when adding to the printed inventory schedules. As many copies as are needed can be produced from a single typing on this special stencil sheet.

RIGID BOARD SHEATHING

The multi-purpose Backer Board for damp-proofing or insulation.

Comprised of an Asphalt mastic between two sheets of saturated felt, Servicised Rigid Board Sheathing is a real 'economy' product made to our high efficiency standards.

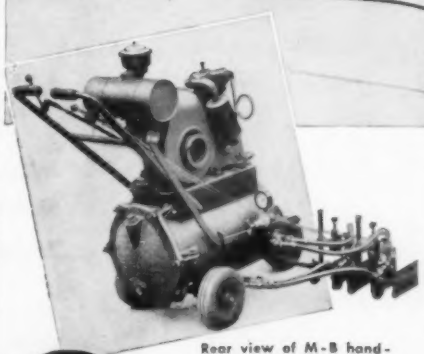
Easily applied, effective and durable, it is the ideal lining under wood, metal or concrete.

Literature and prices on request.

SERVICISED PRODUCTS CORP.

6051 W. 65th St. Chicago 38, Ill.

M-B Marker putting down single line at street intersection.



Rear view of M-B hand-propelled Marker equipped for double line striping.

It's much easier to control city traffic if streets are properly striped. This handy M-B Marker simplifies the striping job. It handles ALL types of marking: Center-lines, parking areas, cross walks, safety zones, etc. Can also mark athletic fields, airports, tennis courts, playgrounds, etc., and is quickly convertible to an all-purpose paint sprayer. Write for descriptive bulletin.

MEILI-BLUMBERG CORP.
Box AC-8 New Holstein, Wis.

MB MARKERS

Davidson Limited Highway is helping Detroit avert traffic chaos. Many cities need similar direct routes through built-up areas.

Urban Expressways Call for CONCRETE

Many cities are now making comprehensive plans for redesigning their street systems to include expressways which will reduce accidents and handle traffic in congested areas at minimum cost.

Urban expressways and heavily traveled streets to carry, economically, the increased volume of postwar traffic, must be built of a long-lived material. Concrete has the strength and stamina to carry the heaviest traffic safely at low annual cost.

Concrete construction conserves motor tax money. Not only is the first cost of concrete pavement less than for other pavement of equal load-carrying capacity, but the annual surface maintenance cost is less.

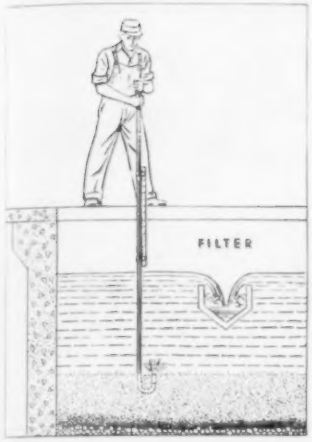
Our engineers will gladly help you work out the most economical concrete pavement designs for your postwar program.

PORTLAND CEMENT ASSOCIATION

Dept. 8-4, 33 W. Grand Ave., Chicago 10, Illinois

A national organization to improve and extend the uses of concrete . . . through scientific research and engineering field work

★ *BUY MORE WAR BONDS* ★



Showing the gauge in position on the top of the unexpanded sand bed. Note adjustable scale on side, and light on hook.

New Instrument for Measuring Sand Expansion

Builders-Providence, Inc. (Division of Builders Iron Foundry), 9 Codding St., Providence, R. I., have introduced a new instrument designed to obtain maximum filter runs, and reduce the use of wash water to a minimum. The Hook Light Sand Expansion Gauge consists of a tube of corrosion-resisting metal long enough to allow the operator to reach the filter bed from the walkway. A handle at the upper end of the tube encloses dry cell batteries and a switch. The lower end of the tube is bent into a hook with a small light bulb and magnifying lens at the end. On the side of the tube is an adjustable scale which can be clamped at any height.

The gauge is lowered until the bottom of the bend just touches the top of the unexpanded sand bed, then the scale is adjusted so that its lowest graduation is in line with a reference mark. During back-washing the instrument is raised until the light can just be observed. Since the scale has been compensated for the distance from the light to the bottom of the bend—the amount of expansion (in inches)—is then read directly on the scale. The Hook Light measures directly the actual expansion of the sand at all times and seasons, without reference to water temperature or size of the sand grains.

Steel Flag Poles for Municipal Needs

Municipal officials will be interested in the sturdy, long-lasting flag poles offered by The Stewart Iron Works Co., 1121 Stewart Block, Cincinnati 1, Ohio.

These poles, made of heavy hot galvanized steel pipe in sizes from 20 to 40 feet, are equipped with a 6-inch diameter ball top trim with hooded non-jambing halyard sheave pulley, assuring easy operation. They are suitable wherever an inexpensive telescopic pole is required.

At South Bend, Ind. The Old and The New!

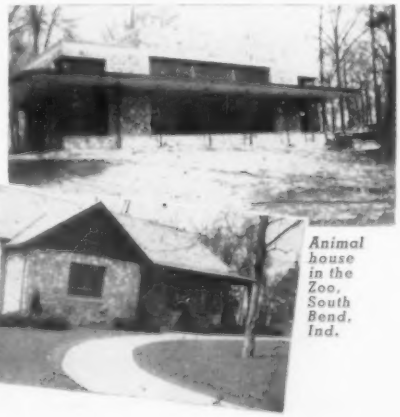
The City of South Bend, Indiana, is proud of its beautiful parks and playgrounds. Much of the fine appearance of the lawns, greens, paths and courts may be attributed to their Royer "Jr." Compost Mixer which shreds, mixes and aerates compost, soil, manure and other materials, producing better grass and sod with a minimum of manpower.

Royer "Jr." Compost Shredder and Mixer—one of twelve models.

Probably the most popular pair of animals in the South Bend Zoo is its yoke of oxen which the park district uses for hauling purposes. These sturdy oxen, drawing a load of compost to be mixed by the Royer, are an interesting combination of the old and the new.

Incidentally, the park district's Royer was used to prepare the mixture for the cinder paths at Notre Dame University.

Schools, municipalities, park systems will find a Royer Compost Shredder and Mixer an excellent investment. Available in 10 models — portable and stationary—electric motor, gasoline engine and belt-to-tractor driven. Send for bulletin.



The picturesque Administration Bldg., Dept. of Public Parks, South Bend, Ind.

Animal house in the Zoo, South Bend, Ind.

THE ROYER FOUNDRY & MACHINE CO.
179 PRINGLE ST., KINGSTON, PA.
PIONEER BUILDERS OF COMPOST SHREDDERS

ELLIS PIPE CUTTER PARTS

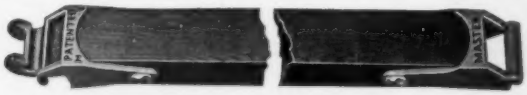
All parts interchangeable with our cutter put out for the past 40 years. Order what is needed to place your cutter in good working condition.

ELLIS & FORD MFG. CO. **38 Piquette Ave., Detroit 2, Mich.**

SURE GRIP SEWER RODS and ACCESSORIES

The REGULAR, a light rod,
Fir stock 1¼ x 1¼ inch square.

are joined together with a dual lock forming a rigid chain that will float. They can be coupled or uncoupled upon the street if desired. Made in two sizes.



The MASTER, a heavy duty rod,
Fir stock 1⅝ x 1⅝ inch square.

Write for catalog on complete line of sewer cleaning equipment.

EXPANDING SEWER MACHINE CO.
NAPPANEE, IND.

Stewart

JAIL AND PRISON BUILDERS
TO AMERICA SINCE 1886

Steel Cells, Bunks, Doors, Window Guards, Locks and Locking Devices, Gratings, Catwalks and Stairways fabricated by Stewart, have gone into many Federal, State, County and City penal institutions. ¶ Although materials are not yet available for jail construction, it is not too early to plan for the future. While the Stewart organization is now fully engaged in war work, our engineers will be glad to work with municipal officials on specifications, layouts, estimates and other details for new projects or the remodeling of present equipment. There's no cost or obligation.

THE STEWART IRON WORKS CO., INC.
1121 Stewart Block...
CINCINNATI 1, OHIO

Cast Iron Pipe

PLAIN CAST OR SPUN CENTRIFUGAL

Cast Iron Pipe and Special Castings, Bell and Spigot, Flange, Flexible Joint, Culvert, Milled and Plain End Tubes, Cylinders, Flanged and Bell and Spigot Fittings, High Pressure Fire Service Pipe, Warren Short Body Specials, Threaded End Pipe.

Size 2 to 84-inch

Pipe manufactured in accordance with standard specifications adopted and approved by water works associations and engineers.

Warren Foundry & Pipe Corp.
11 Broadway, New York City

Warren Pipe Co. of Massachusetts
75 Federal Street, Boston, Mass.

SEPTEMBER, 1944

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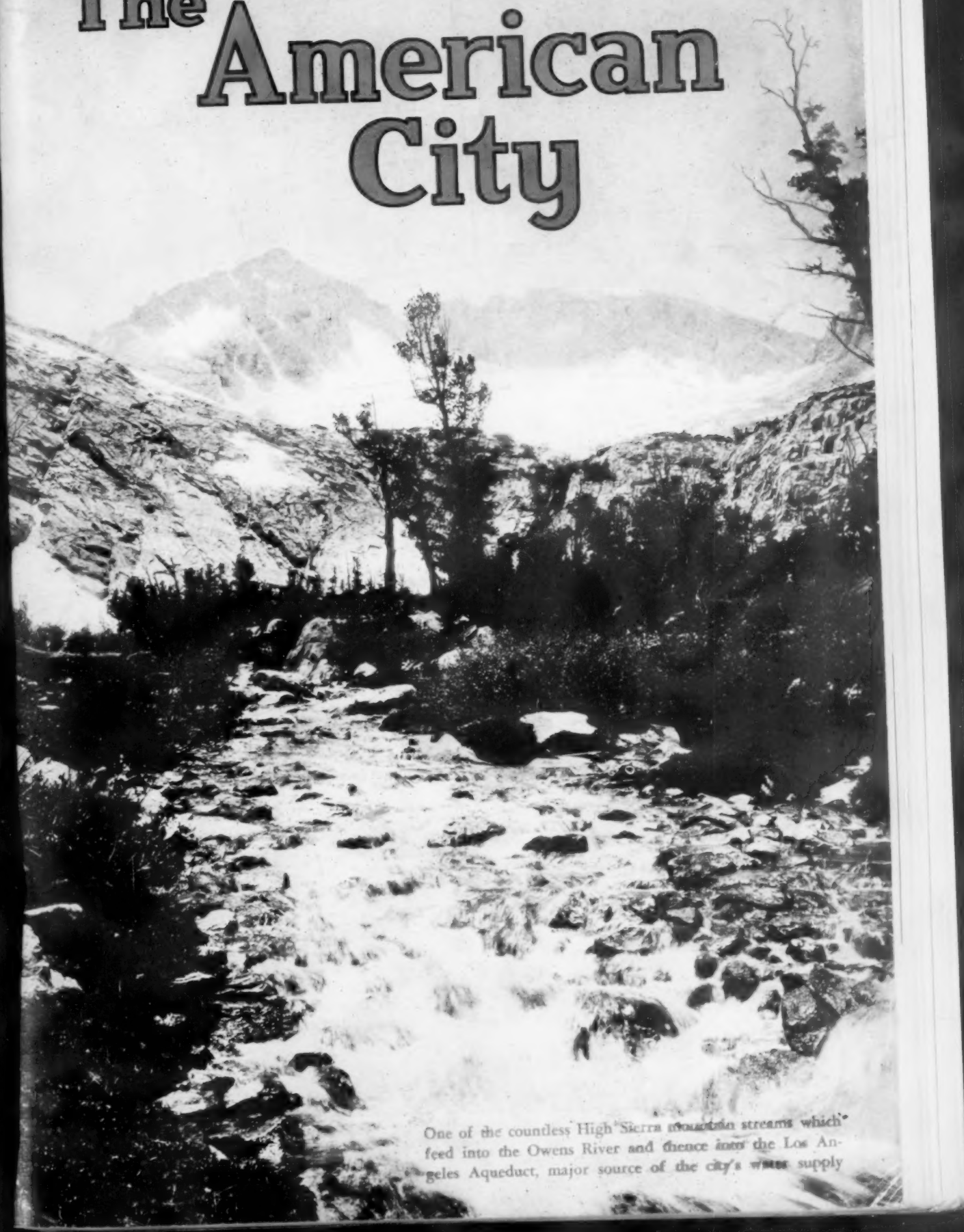
GENERAL LIBRARY
UNIV. OF MICH.

SEP 15 1944

The American City



One of the countless High Sierra mountain streams which feed into the Owens River and thence into the Los Angeles Aqueduct, major source of the city's water supply